

SELECTED SOURCE MATERIAL
INTERNATIONAL EXPERIENCE WITH CIGARETTE ADVERTISING BANS

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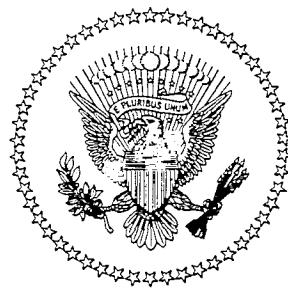


ISSUE MODULE MARKETING

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PHILIP MORRIS INTERNATIONAL INC.

Economic Report of the President



Transmitted to the Congress
January 1987

TOGETHER WITH
THE ANNUAL REPORT
OF THE
COUNCIL OF ECONOMIC ADVISERS

UNITED STATES GOVERNMENT PRINTING OFFICE
WASHINGTON : 1987

For sale by the Superintendent of Documents, U.S. Government Printing Office
Washington, D.C. 20402

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Note 17 -- Collishaw, *Commentary on Application to Regulate Tobacco Products under the Hazardous Products Act by Physicians for a Smoke-Free Canada* (May 12, 1986)

Note 34 -- U.S. Cigarette Export Association, "U.S. Cigarette Imports in Pacific Rim Countries: Small Players in Big Markets," April 30, 1992

Note 38 -- Lewit, "Tobacco in Developing Countries" (Harvard Institute for the Study of Smoking Behavior and Policy, Discussion Paper Series, March 1988)

Note 40 -- Hagan, Martin & Waterson, *An Appraisal of the Advertising Analysis and Conclusions in the "Health or Tobacco" report from the Toxic Substances Board of New Zealand* (July 1989)

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We have learned at the FTC to view prohibitions of information with deep suspicion. They have repeatedly been found to impede competition, thus making producers less, rather than more, responsive to the needs of consumers. Where bans of truthful advertising are removed, consumers are better off.

Every FTC, "liberal" or "conservative," has made attacking restraints on truthful advertising one of its highest priorities. It is true that the FTC has flirted with ad bans in the recent past, but only twice. The first time was its 1960 ban on Tar and Nicotine advertising -- an action that was widely credited with retarding the development of lower tar cigarettes. This ban was later dropped at the urging of the American Cancer Society and the National Interagency Council on Smoking and Health. The second time was when the FTC was in its heyday as tyrannosaurus rex, and national nanny of Federal regulatory agencies, when it considered banning certain ads to children under 7. I think of the irony of now saying that the images of horses, scenic surroundings, and attractive models are so seductive that even the parents of toddlers must also be protected from themselves.

Now we hear the government must step in, not to be sure that people are receiving truthful information, but in an attempt to manipulate their wants and desires by depriving them of information. This is a startling, deeply disturbing development.

The informed citizen is a better protector of his own interests than the government is.

ARE ADVERTISING BANS CONSTITUTIONAL?

In 1976, in Virginia State Board of Pharmacy v. Virginia Citizens Consumer Council, Inc., 96 S. Ct. 1817 (1976), the Supreme Court first made clear the First Amendment interest in advertising:

Advertising, however tasteless and excessive it sometimes may seem, is nonetheless dissemination of information as to who is producing and selling what products, for what reason and for what price. So long as we preserve a predominately free enterprise economy, the allocation of our resources in large measure will be made through numerous private economic decisions. It is a matter of public interest that these decisions . . . be intelligent and well informed. To this end, the free flow of commercial information is indispensable.

Id. at 1827

Moreover, this decision made clear that the First Amendment interest in advertising includes the right of the listener who would be deprived of information, not just the right of the speaker who would be silenced. The Court's decisions, after Virginia Pharmacy, have established and applied a careful four-part test to ensure that regulations on commercial speech are not overly restrictive. Specifically, under Central Hudson Gas & Electric Corp. v. Public Service Commission, 447 U.S. 557 (1980),

Two years ago, we saw a proposal to ban alcohol advertising.² Last year came a proposal to ban tobacco advertising.³ Again this year, we see bills to ban tobacco ads.⁴ The justification given for depriving citizens of information is that they are better off without it. Other justifications have been given for advertising bans in the past. I oppose these attempts to deprive citizens of information necessary to make their own decisions. Informed choice is the essence of our economic as well as political system, and advertising is a fundamental part of the process by which consumers become informed.

Bans on truthful commercial advertising really raise two separate, but related questions. First, under the First Amendment's guarantees of free speech are they legal? Second, as a matter of public policy, are they wise? The experience of the Federal Trade Commission should be helpful to your consideration of those questions, because the constitutionality of an ad ban hinges in part on its effectiveness in advancing public policy.

² Hearing Before the Subcommittee on Alcoholism and Drug Abuse, Committee on Labor and Human Resources, United States Senate, 99th Cong. 1st Sess., February 7, 1985. Hearing Before the Subcommittee on Telecommunications, Consumer Protection and Finance, United States Senate, 99th Cong. 1st Sess., May 21, 1985.

³ H.R. 4972, 99th Cong. 2d Sess. (Mr. Synar and others) (introduced June 10, 1986).

⁴ H.R. 1532, 100th Cong. 1st Sess. (Mr. Whittaker) (introduced March 10, 1987), H.R. 1272, 100th Cong. 1st Sess. (Mr. Synar and others) (introduced Feb. 25, 1987).

ments plus price supports and other subsidies is to hold tobacco prices slightly higher, and quantities slightly lower, than they would be in the absence of these programs.

Evidence suggests that information on the consequences of smoking influences behavior. The largest decline in per capita sales of cigarettes, a fall of 8.9 percent, occurred during 1953-54, following publication of two retrospective epidemiological studies that linked lung cancer to smoking and the first laboratory demonstration that the tar in cigarette smoke could cause cancer in animals. During this time, tobacco companies competed vigorously by advertising purportedly less harmful brands, indirectly reminding smokers of the dangers of smoking. The second largest decline in per capita sales occurred in 1968-69, during the height of the antismoking campaigns on television. The largest decline in the number of smokers followed the 1964 Surgeon General's report.

The effects of tobacco advertising are complex. There is little evidence that advertising results in additional smoking. As with many products, advertising mainly shifts consumers among brands. Evidence from other countries suggests that banning tobacco advertising has not discouraged smoking. Four industrialized countries with market economies—Italy, Finland, Iceland, and Singapore—have completely banned advertising for tobacco products, yet have experienced a rise in the per capita consumption of tobacco. Sweden and Denmark enacted partial advertising bans, yet achieved greater success in reducing consumption than did Norway and Finland, which imposed total advertising bans. After the broadcast advertising ban in the United States, cigarette use continued to decline, but at a slower rate than before the ban.

The ban on broadcast advertising was supported by the large tobacco companies. Tobacco advertising expenses were about 35 percent lower in the 5 years following the ban. It is likely that reduced access to public attention made it harder for new brands of cigarettes to enter the market, thus solidifying the market shares of existing companies and brands. Moreover, with no tobacco advertising on television, the antismoking messages required under the Fairness Doctrine were eliminated.

Increased awareness of the health risks of smoking has brought a change in public attitudes and government policies. Forty-two States and the District of Columbia restrict smoking in public places, including government workplaces. Twelve States restrict smoking by public employees and also by those in private businesses. New rules for Federal employees prohibit smoking in nearly all public work areas, including general office space, and permit smoking only in designated areas.

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PREPARED STATEMENT
of
DANIEL OLIVER
CHAIRMAN
FEDERAL TRADE COMMISSION
on
CIGARETTE ADVERTISING BANS
Before the
TRANSPORTATION SUBCOMMITTEE
COMMITTEE ON ENERGY AND COMMERCE
U.S. HOUSE OF REPRESENTATIVES

April 3, 1987

I am Daniel Oliver, Chairman of the Federal Trade Commission. I appreciate the opportunity to be here today to present my views on the trend in legislative proposals to ban advertising as a means to achieve an array of social objectives.¹ The issue, I think, is very clear: should Americans remain free to make individual choices, or should this government employ censorship to take that freedom away?

¹ These are my views, not necessarily the views of the Commission or any other Commissioner.

I will leave speculation about the precise implications of the Posadas decision to others testifying before you today. I think it is safe to say that it would be a mistake to read Posadas as a license to ignore the evidence concerning the third and fourth prongs of the Central Hudson test. The Posadas Court would still ask whether such bans directly advance the government's interest and whether they are no more restrictive than necessary to achieve that interest. Thus, the decision in this matter should be shaped by a careful appraisal of the probable results.

The Federal Trade Commission has extensive experience with advertising generally and cigarette advertising in particular. I would, therefore, like to take this opportunity to share our learning in this area. First, I will discuss the insights this learning provides into the value of advertising to consumers. I will then discuss the evidence critical to Congress' consideration of whether the current proposals to ban all advertising and promotion of tobacco products would serve their intended purpose.

The Role Of Advertising Generally

The Commission's role under Section 5 of the FTC Act principally concerns the regulation and policing of markets in

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We should not suppress truthful expressions in a misguided attempt to alter the tastes and preferences of our citizens.

longer believe that advertising simply creates demand. We now understand that advertising, if it is successful, helps fulfill demand. How does it do this?

First, advertising provides information about product characteristics that helps consumers make better choices among available goods. Such information can enable consumers to choose the particular products or brands that best satisfy their preferences. Thus, advertising may lead to expansion of the market shares of brands that cater to particular tastes.⁶ Moreover, the ability of a firm to inform consumers about the characteristics of its products will increase the firm's incentive to adapt its products to better suit consumer preferences.

Second, theoretical arguments and empirical studies indicate that advertising increases new entry, new brands, and product innovation.⁷ Advertising may facilitate entry by lowering the

⁶ There is considerable evidence in the marketing literature that advertising does in fact change market shares. See, Ackoff et al., Advertising Research at Anheuser-Busch, Inc. (1963-68), 16 (no. 2) Sloan Management Review 1 (1975); Lambin, Advertising, Competition and Market Conduct in Oligopoly Over Time, Vol. 94, Contributions to Economic Analysis, Amsterdam, North-Holland (1976).

⁷ For example, in discussing the success of Marlboro brand cigarettes, Forbes recently commented:

The sales growth has come despite the ban on TV advertising here and in many foreign countries. In fact, Marlboro probably profited here by the TV ban. Its image and product were well known,

information barrier imposed by the fact that consumers have more experience with established brands than with new ones.

Advertising increases price competition by making it easier for firms to communicate the fact that they are offering new products.

Third, advertising facilitates the development of brand reputations. A reputation, in turn, gives a firm an incentive to provide products that are of consistently high quality and that live up to claims that are made for them.⁸

Because of the value of advertising, the Commission has consistently sought to promote (not restrict) truthful advertising. This is equally true of the Commission's attitude toward the advertising of products with health concerns.

and it had already gained a large market share. Those who suffered most from TV bans on cigarette advertising were smaller brands -- and new product introductions. It is so hard to launch a new cigarette successfully that since the TV ban started in the mid-1970s, only Merit, another Philip Morris product, has emerged as a major brand.

"Here's One Tough Cowboy," Forbes, February 9, 1987, p. 109.

⁸ See, Klein et al., The Role of Market Forces in Assuring Contractual Performance, 89 J. Pol. Econ. 614 (1981); Nelson, Advertising as Information, 82 J. Pol. Econ. 729 (1974); Milgrom et al., Price and Advertising as Signals of Product Quality (1983) (Stanford Business School mimeo.); Kihlstrom et al., Advertising as a Signal, 92 J. Pol. Econ. 427 (1984).

order to preserve, improve and reinforce the powerful economic mechanisms that compel business to satisfy consumer choice in the provision of goods and services. To illustrate why I, as Chairman of the FTC, am so troubled by proposed ad bans, let me describe a hypothetical situation. Suppose we heard that last night the cigarette manufacturers had gotten together in a smoke-filled room and agreed to stop all advertising for their products. The Federal Trade Commission staff would be drafting subpoenas today. I doubt there is any question that it would be illegal under our nation's antitrust laws for cigarette companies, on their own, to achieve the result proposed in the legislation now before you. Why would the antitrust laws, which are supposed to protect consumers, prohibit what these bills banning cigarette ads seek to accomplish? Because it is well recognized that the suppression of truthful information is anti-competitive and bad for consumers. Such bans close off new product innovations, exclude competitors, and disserve the interests of consumers.

Over the last few decades there has been increasing recognition of the important role advertising plays in our economy. We've moved away from the generally accepted notion that advertising does nothing more than manipulate people by forcing them to do things they would not ordinarily do. This view of advertising has been replaced by an appreciation of the role advertising plays in securing consumer sovereignty. We no

important element in reducing lung cancer.¹⁵ Similarly, I believe there is a general consensus that those who choose to smoke should keep their exposure to tar, nicotine, and carbon monoxide as low as possible. Imposing a prohibition on tobacco advertising and promotion could well inhibit future changes in cigarettes such as wider use of ultra-low tar brands, adoption of new designs that reduce fire hazards, or other as yet unforeseen product developments. Worse still, it could erode past gains. When consumers stop hearing the health warnings as often as they do now, how long will it take before the stronger taste of higher tar lures them away from the newer low tar brands? A prohibition on tobacco advertising could have the unintended effect of injuring, rather than promoting, public health.

In contrast, the current approach of providing consumers with information about the health risks of smoking while allowing truthful advertising seems to have had a significant effect. The decline in per capita smoking in the United States has been almost uninterrupted since the mid-1960's, except for the pause that followed the television ad ban in the 1970's. From 1975 to 1984, total per capita tobacco consumption in the United States

¹⁵ See, Is There a Future for Lower-Tar-Yield Cigarettes?, The Lancet (November 16, 1985) (findings by the Fourth Scarborough Conference on Preventive Medicine (1985)).

the Court inquires: first, whether the speech to be regulated concerns a lawful activity and is not misleading or fraudulent; second, whether the regulation concerns a substantial state interest; third, whether the regulation directly advances that interest; and fourth, whether the regulation is no broader than necessary to accomplish that goal.

Prior to July 1986, it seemed that this analysis mandated that bans on truthful advertising for lawful products would not survive constitutional scrutiny. Indeed, in case after case, the Supreme Court struck down bans on advertising of drug prices, professional services, contraceptives, and electricity.⁵

The Supreme Court's July 1986 decision in Posadas de Puerto Rico v. Tourism Company of Puerto Rico, 106 S. Ct. 2968 (1986), however, introduced new uncertainty into commercial speech jurisprudence. In Posadas, the Court upheld a limited ban on the advertising of otherwise legal casino gambling to Puerto Rican residents.

⁵ Prophylactic prohibitions on the advertising of drug prices, Virginia Board of Pharmacy, 425 U.S. 748 (1976); professional services, Bates v. Bar of Arizona, 433 U.S. 678 (1977); contraceptives, Carey v. Population Services International, 431 U.S. 678 (1977); houses -- through the use of "For Sale" signs, Linmark Associates v. Township of Wellingboro, 431 U.S. 85 (1977); and electricity consumption, Central Hudson, 447 U.S. 85 (1977); all were invalidated despite their asserted purpose of protecting the public health, safety and welfare.

number of studies of cigarette advertising have found changes in total advertising expenditures to have little or no effect on changes in total consumption. The studies are not perfect. They do not permit us to predict with confidence that a prohibition on tobacco advertising would not have any effect on aggregate consumption. We can state, however, that the evidence does not support the view that the prohibition of tobacco advertising would appreciably diminish overall cigarette consumption. Moreover, the evidence does strongly support the position that advertising is not a major determinant of smoking.

Equally important, in the tobacco market (as in other markets) advertising is a vehicle for the introduction of new products. The available evidence indicates that this process has accelerated the shift to lower tar and filtered cigarettes. The historic movement from high tar non-filtered cigarettes to progressively lower tar filtered brands corresponds closely with the intensity of cigarette advertising with its tar and other health-related claims, and the addition of warnings in advertisements. The reductions in tar have been recognized as an

and Econ. 545 (1981); Porter, The Impact of Government Policy on U.S. Cigarette Industry, (1986), in P. Ippolito and D. Scheffman, eds., Empirical Approaches to Consumer Protection Economics, Federal Trade Commission; Bishop and Yoo, "Health Scare," Excise Taxes and Advertising Ban in the Cigarette Demand and Supply, 52 S. Econ. J. 402, (1985); W. Comanor and T. Wilson, Advertising and Market Power, (1974); K. Cowling et al., Advertising and Economic Behavior, (1975); and Leeflang and Reuijl, Advertising and Industry Sales: An Empirical Study of the West German Cigarette Market, 49 J. of Marketing 92 (1985).

Would The Proposed Ban On Advertising And
Promotion Of Tobacco Products Directly Advance
The Stated Purpose of Decreasing Smoking?

But what about advertising restrictions to promote the public health? The question here is whether something about cigarettes or alcohol, or any product that may impose health risks, transforms normally beneficial competitive forces into something insidious, so that an advertising ban would for once be a good thing instead of harmful. Is advertising for some legal products so manipulative that a ban is necessary to protect citizens from themselves? I submit that informed American consumers are better judges of what's best for them than consumers handicapped by ignorance.

The Federal Trade Commission has acquired a depth of understanding and factual knowledge of cigarette advertising that is unique among government bodies. Important lessons have been learned from the history of cigarette advertising and its regulation.

Congress passed the Federal Trade Commission Act at about the same time that cigarettes began to be advertised and sold on a massive scale. In the seventy years since then, the FTC has repeatedly dealt with cigarette advertising, bringing dozens of health-related deception cases against all major companies and many minor ones. The Commission's role has increased substantially since the Federal Government assumed an active role

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- [1] Journal of the Norwegian Medical Association
- [2] The Norwegian Athletics Association
- [3] The Norwegian Medical Association
- [4] The Norwegian Cancer Association
- [5] The National Organization against Tobacco Damage
- [6] The Norwegian Asthma and Allergies Association
- [7] The National Association for Public Health
- [8] The Joint Action Body for Health Education

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Viewpoint

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Smoking and attitudes towards smoking in Norway Tidsskr Nor Lægeforen [1] 1990; 110: 2260-1

A great deal of publicity has been devoted to the question of smoking prohibitions on flights in Norway and the impression has been given that Norway is far in advance of other countries as far as the regulation and reduction of smoking is concerned. According to a recent international comparison, Norway stands, in reality, in last place compared with other Western countries. Our own data, providing a ten year perspective, are also presented, showing how attitudes to smoking have dramatically altered, whilst percentages for daily smokers have, broadly speaking, remained unchanged. Proposals are put forward on how the environment can be made more smoke-free and on how passive smoking can be prevented.

In the Journal (1), under a short article on Smoking prohibitions "over there", it is stated that the USA is expecting to introduce smoking prohibitions on all domestic flights. The commentary on this points out that "in Norway, a smoking ban was introduced on all domestic flights long ago".

In the USA, smoking prohibitions were introduced many years ago on all flights under 90 minutes duration. Braathen's SAFE soon followed suit in introducing smoking prohibitions on all domestic flight routes in Norway. SAS came up somewhat later with an announcement stating that it was now forbidden to smoke cigars and pipes (something which has always been banned by most airlines). Not until recently did SAS introduced smoking prohibitions on domestic routes in Norway.

Only one direct domestic route in Norway is longer than 90 minutes (Oslo-Tromsø, barely two hours). Most domestic routes within the USA last more than 90 minutes. All domestic routes, including those which are over six hours, have been smoke-free since 25/2 1990!

The legislation and regulation of smoking which has been implemented in aircraft is a reflection of the work put in to achieve smoke-free conditions within other areas also.

[1] Journal of the Norwegian Medical Association

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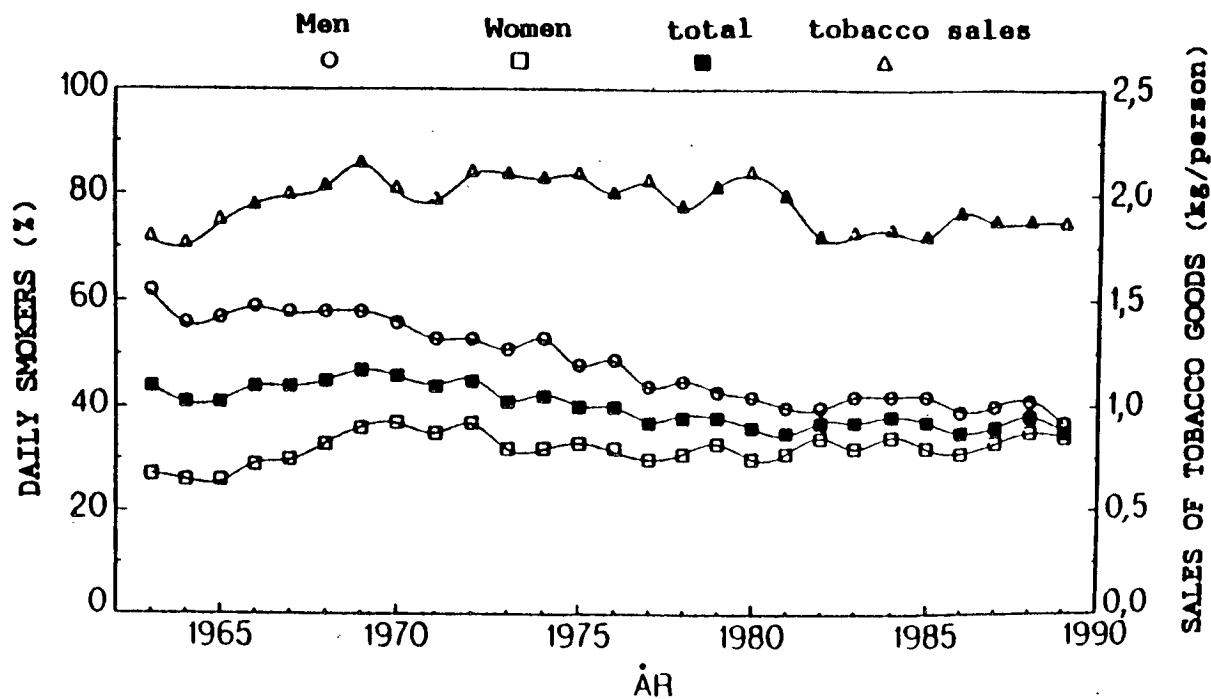


Figure 1

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The left-hand axis shows the percentage of daily smokers in the population over 15 years of age (for 1963 to 1972 data from Norwegian Market Data, and for 1973 onwards from the Advisory Board on Tobacco Risks). The right-hand axis shows the sales of tobacco goods (cigarettes, cigars and pipe tobacco) in kg per person over 15 years of age (data from Customs and Excise annual reports) for the period 1963 to 1989

Table 1 Average annual change (in percent) in the period 1974-87 in different groups(3).

Group	USA	England	Sweden	Norway
Men over 20	-0.91	-1.40	-0.99	-0.77
Women over 20	-0.33	-0.80	-0.58	+0.20
Men aged 20-24	-1.03	-0.90	-1.71	-0.80
Women aged 20-24	-0.11	-0.70	-1.31	-0.88

Trondheim

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has fallen 17 percent.¹⁶ Recent National Institute on Drug Abuse surveys show that during the period 1975-85, the percentage of all graduating high school senior males who smoke daily declined from 27 percent to 18 percent, with most of that change coming since 1977. For females, the results are similar -- a decline from 26 percent in 1976 to 21 percent in 1985.¹⁷ All of this has occurred in the face of continually escalating expenditures for cigarette advertising.

Moreover, at least partially in response to advertising, filter cigarettes have increased from 58 percent of the market in 1963 to 93 percent in 1984, and in 1984 lower tar cigarettes accounted for 51 percent of the market and 57.1 percent of all cigarette advertising dollars.¹⁸

The choice between an advertising ban and these other alternatives is really a choice between consumer sovereignty and censorship. Information is not, in itself, harmful. People will perceive their own best interests if they are well enough

¹⁶ B. Rogers, et al. Trends in Tobacco Consumption in Seven Countries 1950 - 1984, (unpublished paper presented to 34th International Congress on Alcoholism and Drug Dependence, Calgary, Canada) (1985).

¹⁷ National Institute of Drug Abuse High School Senior Survey (1986). This survey covers the years 1975 to 1985 and included only high school seniors.

¹⁸ This involves a correction of figures previously included in our 1984 Report to Congress pursuant to the Federal Cigarette Labeling and Advertising Act (dated: 1986).

in smoking and health in the 1960s. Immediately after the Surgeon General's landmark report on smoking and health was released in 1964, the FTC proposed a trade rule that would have required health warnings in all cigarette advertising. This plan was forestalled by legislation in 1965,⁹ but subsequent negotiations between the Commission and six major cigarette companies led to a consent agreement in 1972 that required the clear and conspicuous display of health warnings in advertising.¹⁰ The Commission also recommended and implemented new rotational health messages in advertising and labels for cigarettes¹¹ and recently promulgated regulations pursuant to the Comprehensive Smokeless Tobacco Health Education Act of 1986.¹² The FTC has also borne the responsibility of documenting the scale and nature of cigarette advertising,¹³ has monitored tar

⁹ Federal Cigarette Labeling and Advertising Act, Pub. L. No. 89-92, 79 Stat. 282 (1965), as amended by Pub. L. No. 98-474, 98 Stat. 2204 (1984) and by Pub. L. No. 99-92, section 11, 99 Stat. 393, 402-04 (1985), current version at 15 U.S.C. 1331 (1985).

¹⁰ See, Lorillard Co., 80 F.T.C. 455 (1972). The warning was identical to the modified warning required on labels by Section 4 of the Public Health Cigarette Smoking Act of 1969 (Pub. L. No. 91-222).

¹¹ See, Statement of the Federal Trade Commission Endorsing the Concept of Federal Legislation to Require a System of Rotational Health Warnings in Cigarette Advertisements and on Packages (May 3, 1984).

¹² Comprehensive Smokeless Tobacco Health Education Act of 1986, Pub. L. No. 99-252, 100 Stat. 30 (1986), to be codified at 15 U.S.C. 4401 et seq.

¹³ Federal Cigarette Labeling and Advertising Act, supra n.8.

informed. The best means to that end is to open the channels of communication rather than to close them. Contrast the experience in some countries that have banned cigarette advertising only to find that consumption is rising, with that of the U.S., where the cigarette industry is spending more on advertising than ever before but per capita consumption has declined.

In fact, the true irony of these proposals to ban various kinds of advertisements is that the proponents of censorship are guilty of exactly what they accuse the advertisers of: trying to manipulate the wants and desires of individuals by controlling information. We should oppose efforts to place the government in the position of seeking to regulate the choices of individuals by controlling what they read and see. We must decide if we really want to redefine the relationship between the government and the people. Do we want a select few in Washington to make decisions for all consumers? Do we want to impose ignorance on the people and deprive them of information useful in making their own decisions?

The government should not practice social engineering through censorship. The strength of our economic system, our nation, and our people lies in the wealth of competing messages and claims that fill the newspapers, the magazines, and the airways. The Constitution recognizes the importance of this freedom to the political and economic vitality of this nation.

To suggest that the USA is now finally following Norway's fine initiative in terms of a reduction of smoking would appear to be a little excessive, at a time when a claim that Norway is amongst the last in a race of Western countries in terms of reduction and regulation of smoking would probably be closer to the truth.

The Tobacco Damage Council has long spoken of Norway being far ahead in the reduction of smoking and that other countries are now taking after Norway. This is to erect smokescreens around the truth.

In a recent report by Pierce (6), the prevalence of smokers and the reduction in smoking has been studied for a number of different countries. It can be seen, with all desirable clarity, that Norway, compared with, amongst others, the USA, England and Sweden, is in last place, both in terms of prevalence and in terms of reduction in prevalence in the period 1977-87. Furthermore, prevalence has even increased amongst women! (Table 2).

Some of the figures can perhaps be explained by the fact that Norway may be in a somewhat later development phase with regard to the increase in the incidence of smoking amongst women. However, such an explanation provides no good reason for talking about things being so good, in that we have such a low percentage of smokers and the reduction has been so large. Fortunately, there are not many countries which are taking after Norway, as that would be a serious backward step.

The Norwegian Medical Association which, in its long term programme, envisages a smoke-free Norway in the year 2000, should invest more in an initiative which might make this possible, above all by setting a good example with smoke-free environments at medical institutions, interest and advice concerning patients' smoking habits etc. An action plan for a smoke-free Norway in the year 2000, in which the Norwegian Medical Association, amongst others, is involved (7), should be realized more speedily and in greater detail. Recently, an editorial in the Journal has pointed to the necessity of going further (8). Previously, there has been some bragging about the results in this country, but it now nevertheless appears as if there is some awareness that the action plan has not produced any return, in any event not in relation to some other countries against which we are used to comparing ourselves. Indeed, we are now in a very difficult situation, with a smoking incidence level which has not fallen in the last ten years, and our own example indicates that, in hospitals, the incidence of smoking might even be greater than in the population at large!

Work on the reduction of smoking should be continued on a targeted basis, to obtain completely smoke-free medical and educational establishments, public premises such as offices, institutions, concert halls and theatres, plus, not least, hotels and restaurants (7). In addition, the risk of passive smoking should be reduced to zero and all aircraft should be smoke-free.

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consumption. First, cigarette advertisements contain government-mandated health warnings that almost certainly have a negative effect on demand. Second, all cigarette advertisements contain tar and nicotine content information, and some are devoted exclusively to comparative tar content claims. The ads may have the effect of continually reinforcing consumer awareness of the unhealthy consequences of tobacco smoking. They certainly have had the effect of dramatically reducing the tar and nicotine content of cigarettes smoked today. In the absence of industry collusion, competition may force each individual firm to advertise simply to preserve its market share. This competition for market share may in fact be forcing cigarette firms to advertise even if the net effect is to decrease overall sales.

These considerations alone do not tell us what the net effect of tobacco advertising is, but they suggest that the net effect is likely to be small. Indeed, a number of econometric and statistical studies have tested for the effect of cigarette advertising on total consumption.¹⁴ Almost all of the large

¹⁴ See, Hamilton, The Demand for Cigarettes: Advertising the Health Scare and the Cigarette Advertising Ban, 54 Rev. of Econ. and Statistics 401 (1972); Schmalensee, The Economics of Advertising, Vol. 80, Contributions to Economic Analysis, Amsterdam, North-Holland (1972); Wilder, Advertising and Inter-Industry Competition: Testing A Galbraithian Hypothesis, 23 J.of Industrial Econ. 215 (1974); Grabowski, The Effects of Advertising on the Inter-Industry Distribution of Demand, 3 Explorations in Econ. Research 21 (1976); Schneider et al., Governmental Regulation of Cigarette Health Information, 24 J. of Law and Econ. 275 (1981); G. Doron, The Smoking Paradox: Public regulation in the Cigarette Industry (1979); Lewit et al., The Effects of Government Regulation On Teenage Smoking, 24 J. of Law

and nicotine claims as part of its program of encouraging the provision of such information in advertising, and has produced numerous scholarly reports on cigarette advertising and the tobacco industry.

Well, what have we learned? Advertising fulfills its economic objective of enhancing the sales of those who advertise by providing information on the characteristics, quality, and prices of advertised products. Such information is clearly designed to persuade consumers that the advertised brand is preferable to other brands. And where it introduces an entirely new product, such as new technology video and computer equipment, it is likely to have a major impact on aggregate demand. In mature industries, however, such as tobacco, alcoholic beverages, detergents, pet foods, and the like, the availability and uses of the product are already well-known. In such cases, the effect of advertising on aggregate demand is likely to be trivial, if it can be found at all. Far from stimulating overall demand by conveying new information to consumers about the existence and uses of tobacco generally, tobacco advertising is likely to have its predominant impact in affecting the consumers' selection among competing brands.

There are, moreover, circumstances present in the tobacco industry that preclude one from assuming that even a trivial positive relationship exists between advertising and aggregate

daily smokers to less than 15%. Both continuity and follow-up have been necessary in order to obtain good results. The scientific assessment of the effect of different types of intervention has also been of central importance. We would propose that an evaluation should be made of some of the advice which has been gathered within new comprehensive and detailed guidelines for such activities, planned to cover a five year period (5):

Special target groups. At the individual level, attention should be directed towards a number of specific groups, such as school children and teenagers, pregnant women, middle-aged men (risk of cardiac and vascular disease). At the organization and environment level, activity should at the same time be directed towards both jobs (especially high-risk jobs), schools, TV, radio, adverts, the local neighbourhood, associations, local authorities and businesses/restaurants.

Variety of intervention. Based on education and information, various parallel interventions should be used, such as social support (within the family, other primary groups, companions), self-help packages, competitions and positive models (prominent members of society). Specific campaigns should be carried out, especially in local environments. Anti-smoking outpatient clinics should be set up at all larger district hospitals. (K.G.G. has had since 1977 a standing offer to start such a clinic in Trondheim, as soon as public support is given). A clearer attitude against smoking amongst doctors and other medical staff who are not directly involved in the smoking therapy is necessary and they must take the lead in this work. Duties on tobacco should be used for anti-smoking work and research. The Smoking Act which was passed two years ago should be used more consciously, for the establishment of smoke-free environments, for the minimization of smoking in public places and for the reduction of passive smoking.

Multiple channels. Information should be distributed through multiple channels in order that maximum possible numbers shall be reached. Both personal contact and the mass media should be used for this. The use of specially prepared printed material in the form of information brochures is an important element of this, but more important are the various course offers, directed towards a variety of groups.

In this way, it should be possible to use the information which exists nationally and internationally and draw up effective intervention programmes. This is wholly necessary in order to allow the objective of a smoke-free Norway in the year 2000 to be fulfilled. In Stanford's programme, the intervention itself costs around 5% of the total budget, whilst measurement and registration costs 95%. The National Tobacco Damage Council has long spent money on registration. A decent investment in intervention will be an obvious extension of the National Tobacco Damage Council's activities over many years and would largely pay for itself in national economic terms.

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Table 1 The percentage of daily smokers and the percentage of positive answers to the various questions at four different points in time amongst staff at Østmarka hospital. The results are calculated as a percent of all respondents, i.e. both smokers and non-smokers

Question	1979 n=100	1980 n=100	1988 n=92	1989 n=52
Daily smokers	43	43	45	48
Smoking is an environmental problem at my place of work (yes-answer)	32	30	60	57
There is a need for better smoke-free rooms in the hospital (yes-answer)	40	45	86	66
Percentage of daily smokers in Norway (National Tobacco Damage Council)	38	36	38	36

Table 2 Reduction in prevalence of smoking men and women over 20 years of age in the period 1977-87, as well as prevalence at the end of the period (6)

Country	Men		Women	
	% reduction	Prevalence	% reduction	Prevalence
USA	22.5	31.7	14.6	26.8
England ¹	23.9	35.0	18.4	31.0
Sweden	25.0	24.0	12.9	27.0
Norway	8.0	41.3	+12.0	33.3

¹ For the period 1976-86

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Tidsskr Nor Lægeforen [1] 1990; 110: 2397-8.
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[1] Journal of the Norwegian Medical Association
[2] Government Health Studies

2503017919

smoking and attitudes in Norway

K. Olof Gotestam & K. Gunnar Gotestam and myself are agreed upon both the objectives and the means (1). The problem is one of tight budgets. Nevertheless, the authors maintain that nothing has been shown to indicate that the legislation to stop tobacco advertising has had any effect upon the incidence of smokers of the consumption of tobacco in Norway.

This legislation was discussed in Parliament in 1970, passed in 1973 and implemented from 1975. Up to 1970, we had a heavy increase in tobacco consumption in Norway (cigarettes + smoking tobacco per inhabitant of 15 years of age and above). From then on, the curve flattened out - at a level which was only half as high as the peak level quoted in the USA, Canada and Great Britain. Had consumption in Norway continued to increase at the same rate as in the 1950's and 1960's, we would have had a 50% higher consumption than that which we have today - and would still be a long way behind the peak levels in the three named countries (2) (Bjartveit K. Fifteen years of comprehensive legislation: Results and conclusions. Plenary presentation, Seventh World Conference on Tobacco & Health, Perth 1990. Currently being printed).

Deaths from lung cancer for both men and women is twice as high in, for example, Canada as in Norway (age-adjusted rates). The cessation of advertising press will be of particular significance in deterring young people from starting to smoke. What has been the trend in Norway?

Studies on smoking habits amongst Norwegian school children showed a dramatic increase in smoking up to the 1970's. For example, amongst girls in the 9th.-year class, there were 3% who smoked daily in 1957, against 28% in 1975. In 1980, it was 21% and in 1985 it was 19%. Amongst youth aged 16-24, the Central Statistical Office's annual studies of smoking habits show a clear declining trend since the start of the 1970's. The percent of daily smokers was, for both sexes, well over 40% in 1973 and now stands at under 30% for men and somewhat over 30% for women.

Whilst a host of factors have certainly contributed to these developments; it is reasonable to deduce that the legislation has also played a part. In any event, there are no grounds whatsoever for the negative conclusion reached by Gotestam & Gotestam.

The trend could however be better and more must be done to speed up the work against one of the foremost health problems of our time. On that we are agreed.

Oslo

Kjell Bjartveit

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So what is the situation with regard to smoking generally in Norway? In 1979, 38% of the Norwegian adult population were daily smokers, in 1989 36% (The National Tobacco Damage Council)! On the other hand, our impression is that attitudes to smoking have changed positively within the last ten years. We have therefore studied the way in which smoking habits and attitudes have changed during this period at a psychiatric hospital (Götestam KO, Smoking and eating habits amongst medical staff. Thesis for Young Researchers, 1988).

Own study

The study was carried out in the spring of 1988. 92 employees at Østmarka hospital (26 men, 66 women, average age 33.7 years, variance 19-51) completed a comprehensive questionnaire on eating, smoking and drinking habits. In addition, staff had been questioned in the spring of 1979 and 1980 (KG Götestam) about their attitudes and habits with regard to smoking and this same was repeated in the spring of 1989 (KO Götestam). The questionnaires, which also contained a written instruction, were issued to ward nurses who distributed and collected the questionnaires. All data collections took place in the spring (during the period February-April). The questions which are present from all four points in time concern the incidence of daily smokers, the desire for smoke-free premises and the extent to which smoking is an environmental problem. The results show a major change in attitudes but, broadly speaking, no change in the incidence of daily smokers (Table 1). Our data follow the same trend as the incidence of daily smokers in the population elsewhere (The National Tobacco Damage Council).

Discussion

The new Smoking Act which was introduced in Norway from July 1988 is a good law. The problem is that it has virtually not yet been implemented and that, in any event, we have not so far seen any effect of it.

What is clear, however, is a dramatic change of attitude with a more negative attitude to smoking and a more positive attitude to regulation and reduction of smoking. This might be an effect of the anti-smoking campaign which has been pursued in recent years.

It is well-known that attitudes and behaviour do not always follow one another (2). Although it is clear that attitudes can affect behaviour, most evidence suggests that behaviour affects attitudes to an even greater degree (3). The discrepancy between attitude and behaviour can be seen every year there is an election and the discrepancy between the opinion measurements and the election results are clear. The same experience of the effect of public information campaigns upon attitudes but a lack of effect upon behaviour has been acquired with regard to both AIDS-prevention (4) and car seatbelt usage (5).

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For men, we would not be faced with such an increase if, by cohort, they were to keep their smoking habits unaltered. The same would apply to women in, for example, Great Britain, USA and Canada, if the age-specific smoking percentage curve has the same configuration as for Norwegian men. It is probable that it is such because the smoking epidemic reached these countries several decades before Norway. This might explain the different trends seen internationally in women's smoking percentages, all age groups combined.

Of more interest, therefore, are Pierce's tables on smoking percentages for the 20-24 year age group in isolation. Here, the trend amongst Norwegian women is more positive than amongst women in the USA, Great Britain and Australia, but not as good as in Canada and Sweden.

Gotestam & Gotestam do not discuss these figures, but merely present some of Pierce's figures for all age groups combined. Pierce calculates the trends in the various countries in 1974-87 by applying a linear regression to the annual smoking percentages. Gotestam & Gotestam select the period 1977-87 from Pierce's table. They do not give an account of how they calculated the trends, but it is clear that they took the difference of the figures for 1977-87 as a percent of the 1977 figures. They then find that the number of daily smokers amongst Norwegian women, all ages, has increased by 12%. In 1977, this percentage was the lowest which the Central Statistical Office has recorded for women, all ages. Had Gotestam & Gotestam chosen the year 1979 as the base point, then the increase would have been 0.6%. For Swedish women, there is a fall of 12.9%. Had they chosen the period 1980-87, they would have found an increase of 3.8%. This shows that the method which was chosen is not tenable.

Gotestam & Gotestam do not break down the figures from their own study in terms of sex, age and education. The authors write that: "... our own example indicates that, in hospitals, the incidence of smoking can even be higher than in the population at large!" There are grounds for raising the question as to whether a psychiatric hospital is representative of Norwegian hospitals in general. In this connection, it is necessary to point to the large fall which has taken place in the smoking habits of Norwegian doctors (4).

Gotestam & Gotestam are scarcely correct in their firm conclusion that, internationally, Norway stands in reality in last place in terms of reductions in smoking in Western countries and that Norway is amongst the last in the race regarding the regulation of smoking.

2503017910

Empirical Evidence

Advertising ban and reduction of tobacco sale.—From a presentation of the tobacco sales in Norway by Bjartveit and Lund (1987), the impression is that sales ceased to increase from 1970 and from 1979-80 decreased dramatically. Firstly, the act of total tobacco advertisement ban was enforced in 1975, and heavy prices introduced 1980-82.

Further, Bjartveit and Lund (1987) show us a figure in which the ordinate begins at 1.4 kg (instead of 0 which should be used). In addition, they have not included the customs sale at the border (data available since 1981). Given lack of tests showing significant changes, the data should be treated and presented in a conservative manner (either in a figure with its y axis anchored at zero or in a table). Treated in such a manner the changes claimed to appear after the advertising ban are no longer evident.

Advertising ban and reduction of smoking.—Similarly, in conflict with National Council of Tobacco and Health (1990), the number of daily smokers does not seem to have decreased during the last ten years; see Table 1. The enacted legislation does not seem to have affected either tobacco sale or number of regular smokers in Norway. This does not mean that the law is poor or inappropriate. As one of several actions, it might be an important although insufficient one.

TABLE 1

PERCENT DAILY SMOKERS OVER 15 YEARS IN NORWAY (FOR 1963-72 DATA FROM NORWAY MARKET DATA AND SINCE 1973 FROM NORWEGIAN NATIONAL TOBACCO COUNCIL) AND TOBACCO SALES (CIGARETTES, CIGARS, PIPE TOBACCO) IN KG PER INHABITANT OF 15 YEARS AND OVER (DATA FROM CUSTOMS AND PRICE DEPARTMENT YEARLY REPORTS) IN THE PERIOD 1963-1989

Year	Percent Daily Smokers			Tobacco Sales (kg)	Incl. Customs Sales (kg)
	Men	Women	Total		
1963	62	27	44.5	1.80	
1964	56	26	41.0	1.77	
1965	57	26	41.5	1.88	
1966	59	29	44.0	1.95	
1967	58	30	44.0	2.00	
1968	58	33	45.5	2.04	
1969	58	36	47.0	2.15	
1970	56	37	46.5	2.03	
1971	53	35	44.0	1.98	
1972	53	37	45.0	2.11	
1973	51	32	41.5	2.10	
1974	53	32	42.5	2.08	
1975	48	33	40.5	2.10	
1976	49	32	40.5	2.01	
1977	44	30	37.0	2.07	

(continued on next page)

Note.—From 1981 are added the customs tobacco sales to a total tobacco sale (data from Customs and Price Department yearly reports).

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Smoking and attitudes in Norway

K. Olof Gotestam & K. Gunnar Gotestam criticize the National Tobacco Damage Council for presenting Norway as a leading country with regard to the reduction of smoking (1). It is correct to say that Norway has been a leading country in terms of legislation for halting tobacco advertising. In this, other countries are attempting to take after us. But the Council and the Council's Chairman have repeatedly emphasized that, in other fields, we are lagging behind and that we are not satisfied with the trend. More specifically, the Council has indicated that we have remained far behind many other countries in the work undertaken against passive smoking (2).

The National Tobacco Damage Council has not published any comparison of the smoking habits in Norway and in other countries. Any such analysis is complex, partly because the various countries use different methods for the collection of data, for the compilation of the interview material and for the formulation of questions. Wherever contrasts might be found in trends, it is also important to be wary of making interpretations and to refrain from drawing rash conclusions regarding the success or failure of various strategies. A number of factors play a part in the development of smoking habits within different cultures.

In making analyses of smoking habits, a minimum requirement would be for the material to be broken down according to age and sex. Figure 1 illustrates the necessity of this. The percent of daily smokers in Norway, classified by age and sex, has been given for two periods at ten year intervals. Taking the age categories, there is, for men, a clear fall in the percent of daily smokers in all age groups. This is not the case amongst women, apart from with the youngest women.

The picture becomes more complete, however, when the trend is monitored for each generation (cohort). This is possible because the chart uses an age classification based on ten-year age categories. The thin diagonal lines show the trend for each ten-year cohort over the ten-year period. For all cohorts of over 25 years of age, there is a fall in the percent of daily smokers - in both men and women.

Gotestam & Gotestam refer to an international comparison by Pierce (3). Pierce emphasizes, however, that it has not been possible to make an age adjustment for the countries which are included in the analysis. Hence, uncertainty is immediately attached to tables relating to the combined total of all age groups. The necessity of such an age adjustment can be seen again from Figure 1. Hypothetical: If the smoking percentages within individual cohorts of women were to remain unchanged in future years, with, at the same time, young generations of women smoking as much as now, we would then face an increase in the smoking percentage for the total group of 16-74 year olds.

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We are clear about the fact that a comparison between different countries is, for methodical reasons, very complicated and we do not believe that possible success or failure can be directly assessed from such a comparison. In addition to this, there is a need for scientific evaluations of initiatives, whether they are national or international (2).

Where we have nevertheless ventured to undertake such a comparison, it is in order to direct the spotlight onto a continuing unsolved problem. We would also wish to point to the positive effects of attitude campaigns - upon attitudes - but to a lack of change in smoking habits (1). We assumed that the objective of intense attitude campaigns has been to change smoking habits, but we fail to see that this has sufficiently occurred.

Bjartveit feels that we have selectively chosen specific information from Pierce (3). That is correct. Bjartveit also does this when he selects the group of women of 20-24 years of age, in order then to state that "the method which was chosen is not tenable". If we examine the main results in Pierce's Table 1-4, it can be seen that the comparison which Bjartveit selects in Table 4 (3) is the only one in which Norway does not come last amongst the countries which we compared (Table 1).

Our conclusion, which is also reiterated by Bjartveit, is the most important one of all in this matter and one which we are happy to repeat:

"An action plan for a smoke-free Norway in the year 2000, in which the Norwegian Medical Association, amongst others, is involved, should be realized more speedily and in more detail." If there is a real desire to carry out such an objective, then rather more must be done than has been done so far. Otherwise one might just as well drop the objective rather than run the risk of it being made ridiculous. Awareness is good and the attitudes to a smoke-free Norway are positive, but it is clear that this is not sufficient (1).

In many places in the USA, they have lengthy experience of comprehensive socially-orientated intervention set-ups for the reduction of, amongst other things, cardiac and vascular diseases, integrated within other medical work and health information. There has been a readiness to invest very large amounts in initiatives of this kind and they have yielded major health gains, something which accurate evaluation has also been able to confirm. Stanford University in California has shown the way in this work and we consider that many of the ideas in these set-ups can also be used in this country. A number of good ideas can be found in the Action Plan for a Smoke-Free Norway in the year 2000(4), but the majority of these have still not been implemented. Stanford Center for Research in Disease Prevention has more than ten years' experience in effective intervention, with a reduction in the incidence of

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Bjartveit, Thürmer & Nylenna (6) suggest that 1% of the tax revenues from tobacco products could be used to support specific tobacco control and health-promoting activities. We are happy to support this idea and would like to make the following calculation: In 1989, tobacco sales in Norway totalled 6,715,000 kg tobacco, at a total price (1,450 Kr/kg cigarettes, 700 Kr/kg tobacco) of 6,411,000,000 Kroner. Tax revenues amount to 66% (tobacco duty and value-added tax) thereof, i.e. 4,231,260,000 Kroner. If 1% of this amount, i.e. 42.3 million Kr. p.a., were spent, it would serve nicely as an initiative, in addition to the three million which the National Tobacco Damage Council now has at its disposal.

In conclusion, we can say that we are agreed upon the main objective with regard to smoking and a reduction in smoking.

X [Even though the law to stop tobacco advertising has a meaningful content, we cannot see that it has had a fundamental effect upon the sale or use of tobacco. We also feel that, so far, all too few active initiatives have been carried out with a view to reducing smoking.

Trondheim

K. Olof Gøtestam
K. Gunnar Gøtestam

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[1] Journal of the Norwegian Medical Association
[2] National Tobacco Damage Council

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Thus, it is not said that the National Tobacco Damage Council is satisfied with the trend. We are specially concerned about the fact that no major changes have occurred in people's smoking habits in the last few years and we would not have any problems in siding with the statement made by the two authors: "The action plan for a smoke-free Norway in the year 2000, in which the Norwegian Medical Association, amongst others, is involved, should be realized more speedily and in more detail."

Oslo

Kjell Bjartveit

The National Tobacco Damage Council

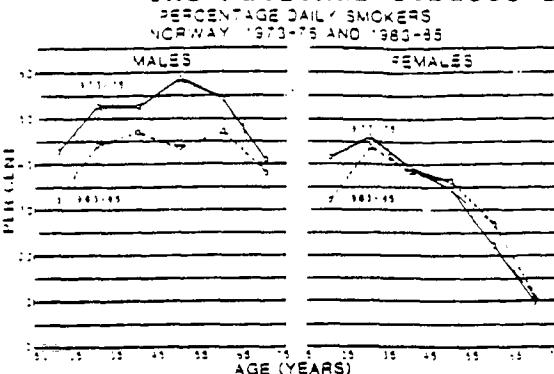


Figure 1 Annual smoking habits studies by the Central Statistical Office under commission to the National Tobacco Damage Council. Representative sample of the Norwegian population, 16-74 years of age. Sample size: ca. 2500 persons per annum. The results for 1973-75 and 1983-85 have been combined.

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K.O. Gotestam & K.G. Gotestam reply:

Kjell Bjartveit criticizes our article on smoking and attitudes in Norway (1). It is entirely clear that we are agreed on the main objective with regard to smoking.

We also agree with Bjartveit that Norway has been a leading country as far as legislation to stop damaging tobacco advertising is concerned. Our concern is that there is nothing shown to indicate that this has had any effect upon the incidence of smokers or on the use of tobacco in Norway.

[1] Journal of the Norwegian Medical Association
[2] National Tobacco Damage Council

2503017911

SUOMEN TUPAKKATEHTAIDEN YHDISTYS
Ref. 89/1920/sh/ap/dm/br/IV

YOUNG PEOPLE AND SMOKING 1973-1989

Arja Rimpelä, Matti Rimpelä, Mervi Hara-Eteläharju, Päivi Pykäri,
Matti Siivola and Sakari Karvonen

Percentage of 14 to 18-year-olds smoking more than nine cigarettes per day in 1973-1989. The *Act on smoking* came into effect in 1977.

"This Act prescribes measures which, by REDUCING SMOKING, are aimed at preventing the rise of health risks and hazards caused or enhanced by smoking." *Act on smoking*, 1976.

SURVEY OF HEALTH HABITS IN YOUNG PEOPLE
Publications 2/1989
University of Helsinki, Department of Public Health Science

2503017934

Correspondences

Smoking and attitudes in Norway

Commenting upon our earlier article in the Journal (1, 2), Kjell Bjartveit maintains that there was a heavy increase in tobacco consumption (3, 4) and tobacco sales (5) in Norway up to 1970, but that the curve subsequently flattened out. It is correct that a large (85%) increase occurred in sales after the war (1.10 kg per person of 15 years of age and above in 1946, 1.55 kg in 1956, 2.03 kg in 1970). Against this, there was a 14% reduction in the number of men who smoked daily (from 65% in 1956 to 56% in 1970) (daily smokers were not registered prior to 1956, these figures are taken from various studies and the comparison must therefore be regarded with some caution), accompanied by a 61% increase in the number of women who smoked daily (from 23% in 1956 to 37% in 1970).

The essential point in Bjartveit's argument is that the reduction in tobacco sales can be ascribed to the legislation to stop tobacco advertising. It must be assumed that the objective of this legislation was to reduce tobacco sales and smoking. In order to be able to say something about this, these two variables must be examined in connection with the Act (which came into effect on 1/7 1975, even though it had already been discussed in Parliament in 1970 and passed in 1973).

The chart which has been quoted by Bjartveit & Lund (5) does not start from 0 but from 1,400 g on the coordinate and no statistical analysis of the results has been reported. In addition, the periods are not defined in terms of calendar years, but from 1/7 to 30/6 (probably in order to avoid excessive differences between calendar years in the event of any hoarding prior to price increases).

When total tobacco sales in Norway (The Customs and Excise Directorate) over the last 25 years are examined, as ordinarily illustrated, no essential change is noticeable as from 1975 (see Fig 1), and sales, if duty-free border sales are also included (estimated by Tiedemann's tobacco factory), are in 1989 virtually identical (2.14 kg per capita) to 1975 (2.15 kg). The fall which is quoted (5) from 1980 as a result of pricing policy is wholly offset if duty-free border sales are included (total sales also then amount to more than 2 kg in 1981-89) (Cf. Fig. 1).

When the percentage of daily smokers is examined, the upward trend was broken as far back as 1969, with the result that it is difficult to state that the Act which came into effect in 1975 might have had some bearing (Fig. 1).

2503017915

CHANGES IN SMOKING LEGISLATION, ATTITUDES, AND BEHAVIOR¹

K. OLOF GÖTESTAM AND K. GUNNAR GÖTESTAM

University of Trondheim, Östmarka Hospital

Summary.—Legislative changes and attitude campaigns are generally acknowledged to be effective in the battle against smoking and its health hazards. In some instances it seems as if these means are insufficient to produce necessary change. In this study, the following general hypotheses were posed: (1) an advertising ban leads to reduced tobacco sale and (2) to reduced smoking; (3) attitude campaigns improve attitudes about regulation of smoking and (4) reduce smoking. In addition, two national hypotheses were formulated. The results supported neither hypothesis! It is concluded that it is important to follow the development closely with scientific methods of high quality. Further, smoking campaigns must include a broad spectrum of interventions to be sufficiently effective.

In the campaign against smoking and its health hazards, different approaches have been used. Among the most widely used and most widely acknowledged as effective are legislative changes and attitude campaigns. We have noted some examples in which these approaches do not seem as effective as expected and so think this might be of interest to others working in the field; for details see Götestam and Götestam (1990a, 1990b, 1990c).

Hypotheses

Underlying hypotheses for reduction of smoking are the following: (1) an advertising ban reduces tobacco sale and (2) consequently reduces smoking; (3) attitude campaigns improve attitudes towards smoking regulation and (4) consequently reduce smoking behavior. Based on these hypotheses and considerable work along these lines, our government has in addition stated that (5) prevalence of smoking has substantially decreased during the last ten years (National Council of Tobacco & Health, 1990, p. 2) and (6) Norway has a prominent position in the work on cessation of smoking (Bjartveit, 1990).

To say that over-all smoking behavior has not changed significantly could be just another way of telling only half the truth. The data will probably be more interesting when one looks at them after dividing them into smaller groups, say, by sex and age. On this basis one could put forward the hypothesis that the ("less important") older people can account for such large numbers that the (possibly) great reduction among younger people makes a less visible contribution.

¹Reprint requests to Olof Götestam, University of Trondheim, Department of Psychiatry and Behavioural Medicine, Östmarka Hospital, PO Box 3008 Lade, N-7002 Trondheim, Norway. A preliminary version of the study was presented at the "Young Researchers Competition" in Oslo in 1988 by Olof Götestam.

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3. Health education
4. Sale of tobacco products

Discussion

Suggested measures

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Summary

Since 1977 the *Survey of health habits in young people* has monitored 12 to 18-year-olds' health habits, smoking in particular, every other year by means of a postal questionnaire sent to a sample representative of all young Finns. The response rate has ranged from 80 to 88 per cent, comprising some 3,000-4,000 young people. The last questionnaire survey, carried out in February-April 1989, yielded 3,220 responses and a response rate of 80 per cent. This report describes smoking habits among the young and realization of the stipulations of the *Act on smoking with respect to young people*.

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Empirical Evidence

Advertising ban and reduction of tobacco sale.—From a presentation of the tobacco sales in Norway by Bjartveit and Lund (1987), the impression is that sales ceased to increase from 1970 and from 1979-80 decreased dramatically. Firstly, the act of total tobacco advertisement ban was enforced in 1975, and heavy prices introduced 1980-82.

Further, Bjartveit and Lund (1987) show us a figure in which the ordinate begins at 1.4 kg (instead of 0 which should be used). In addition, they have not included the customs sale at the border (data available since 1981). Given lack of tests showing significant changes, the data should be treated and presented in a conservative manner (either in a figure with its y axis anchored at zero or in a table). Treated in such a manner the changes claimed to appear after the advertising ban are no longer evident.

Advertising ban and reduction of smoking.—Similarly, in conflict with National Council of Tobacco and Health (1990), the number of daily smokers does not seem to have decreased during the last ten years; see Table 1. The enacted legislation does not seem to have affected either tobacco sale or number of regular smokers in Norway. This does not mean that the law is poor or inappropriate. As one of several actions, it might be an important although insufficient one.

TABLE 1

PERCENT DAILY SMOKERS OVER 15 YEARS IN NORWAY (FOR 1963-72 DATA FROM NORWAY MARKET DATA AND SINCE 1973 FROM NORWEGIAN NATIONAL TOBACCO COUNCIL) AND TOBACCO SALES (CIGARETTES, CIGARS, PIPE TOBACCO) IN KG PER INHABITANT OF 15 YEARS AND OVER (DATA FROM CUSTOMS AND PRICE DEPARTMENT YEARLY REPORTS) IN THE PERIOD 1963-1989

Year	Percent Daily Smokers			Tobacco Sales	Incl. Customs
	Men	Women	Total	(kg)	Sales (kg)
1963	62	27	44.5	1.80	
1964	56	26	41.0	1.77	
1965	57	26	41.5	1.88	
1966	59	29	44.0	1.95	
1967	58	30	44.0	2.00	
1968	58	33	45.5	2.04	
1969	58	36	47.0	2.15	
1970	56	37	46.5	2.03	
1971	53	35	44.0	1.98	
1972	53	37	45.0	2.11	
1973	51	32	41.5	2.10	
1974	53	32	42.5	2.08	
1975	48	33	40.5	2.10	
1976	49	32	40.5	2.01	
1977	44	30	37.0	2.07	

(continued on next page)

Note.—From 1981 are added the customs tobacco sales to a total tobacco sale (data from Customs and Price Department yearly reports).

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STIMSON, G. V., ALDRITT, L., DOLAN, K., & DONOGHOE, M. Syringe exchange schemes for drug users in England and Scotland. *British Medical Journal*, 1988, 296, 1717-1719.

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Accepted February 24, 1992.

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on attitudes or behavior (alcohol involvement) after evaluating an "alcohol education presentation with a media component of public service announcement." Further, there was no correlation between knowledge and either attitudes or behavior (alcohol involvement). There was, however, a strong negative correlation between behavior (alcohol involvement) and attitudes.

Cameron and Playfair (1991) argue that barring contaminated blood has worked much better than education to reduce the AIDS risk. They refer to Ekstrand and Coates (1990) as an example of education that does not work and cite the upwardly mobile pattern of AIDS between the years 1984 and 1990. These increases were, however, around 50% in the first two years, and thereafter only 10%, weakening their criticism. Furthermore, there are several educational programs or attitude campaigns related to AIDS (i.e., Sundet, *et al.*, 1989) with much less impressive changes than in the Ekstrand and Coates (1990) study, supporting these authors' conclusions that more practically oriented intervention and training are more effective than campaigns based only on information. Needle-sharing, and consequently spread of HIV, has been possible to reduce by specific exchange schemes, both in the USA and in Europe (Guydish, Abramowitz, Woods, Black, & Sorensen, 1990; Stimson, Alldritt, Dolan, & Donoghoe, 1988).

Further, few reports have empirically dealt with changes in behaviors in relation to improved health. Ekstrand and Coates (1990) reported change and maintenance of safer sexual behaviors in homosexual men in San Francisco. According to self-reports, some unsafe behaviors were reduced from about 35% in 1984 to 2 to 4% in 1987. Among the predictors for safer sex were being older, having friends/lovers with AIDS, and earlier sex habits. The ingredients of this multifaceted, community-level risk-reduction intervention program (described by Coates, 1990) was based on behavior change ascertained by the use of information, motivation (increased sense of personal threat), skills training (by demonstration and modeling), and change in peer norms. The program worked through a variety of existing avenues, like schools, worksites, health care facilities, organizations, churches, and clubs. The program was also extensively empirically evaluated over time (Ekstrand & Coates, 1990).

Conclusions

Scientific conclusions.—It is of utmost importance that the actions taken are closely followed empirically over time. This work should be done at the highest possible scientific level to enable clear descriptions and valid conclusions. It is also necessary to follow parallel development in countries or environments where commensurability is high. Changes or lack of changes, departing from parallel arrangements in other countries, could then make us more attentive to reasons why imposed actions do not work as expected.

Practical conclusions.—The actions taken in Norway so far may be good

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TABLE 1 (CONT'D)

PERCENT DAILY SMOKERS OVER 15 YEARS IN NORWAY (FOR 1963-72 DATA FROM NORWAY MARKET DATA AND SINCE 1973 FROM NORWEGIAN NATIONAL TOBACCO COUNCIL) AND TOBACCO SALES (CIGARETTES, CIGARS, PIPE TOBACCO) IN KG PER INHABITANT OF 15 YEARS AND OVER (DATA FROM CUSTOMS AND PRICE DEPARTMENT YEARLY REPORTS) IN THE PERIOD 1963-1989

Year	Percent Daily Smokers			Tobacco Sales (kg)	Incl. Customs Sales (kg)
	Men	Women	Total		
1978	45	31	38.0	1.95	
1979	43	33	38.0	2.04	
1980	42	30	36.0	2.11	
1981	40	31	35.5	2.00	2.08
1982	40	34	37.0	1.81	1.99
1983	42	32	37.0	1.83	2.09
1984	42	34	38.0	1.84	2.12
1985	42	32	37.0	1.91	2.15
1986	39	31	35.0	1.92	2.20
1987	40	33	36.5	1.88	2.15
1988	41	35	38.0	1.88	2.15
1989	37	34	35.5	1.87	2.14
1990	36	33	34.5	1.87	2.14

Note.—From 1981 are added the customs tobacco sales to a total tobacco sale (data from Customs and Price Department yearly reports).

Attitude campaigns and improvement of attitudes and behavior.—The smoking campaign has led to substantial change in attitudes towards smoking. In a small study of our own (Götestam & Götestam, 1990c), attitudes towards smoking regulation (smoking as a milieu problem, need for nonsmoking rooms, etc.) changed from 30 to 45% in 1979-80 to 57 to 86% in 1988-89 (see Table 2), and 62 to 80% wanted to quit smoking in 1988-89 compared to only 25 to 26% in 1979-80. What about smoking prevalence? This had not changed throughout the period (but showed a small increase from 43 to 48%)! The same is true for national data, which were somewhat lower, but stable; see Table 2. A similar discrepancy between attitudes and behavior has

TABLE 2
PERCENT POSITIVE ANSWERS ON THREE QUESTIONS, PLUS DAILY SMOKERS
IN OUR MATERIAL AND IN NORWAY

Questions	1979	1980	1988	1989
Smoking is a milieu problem at my working site	32	30	60	57
We need more nonsmoking rooms at the hospital	40	45	86	66
I want to quit smoking	25	26	62	80
Daily smokers	43	43	45	48
Daily smokers in Norway (The Norwegian National Tobacco Council)	38	36	38	36

Note.—All percentages are computed on the total number of respondents, both smokers and non-smokers, except the quit smoking question.

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Accepted February 24, 1992.

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Among young people, smoking increased during 1985-87, nor has this trend shown any sign of weakening in the past two years. The percentage of 14 to 18-year-olds who smoke daily in 1989 was greater than the respective percentage when the *Act on smoking* came into effect in 1977. Worth noting is the brisk growth in cigarette consumption. According to the most recent survey, the proportion of smokers smoking more than nine cigarettes a day was already greater than that in 1973, when smoking among the young had been the most common to date.

The findings suggest that over 18,000 young people of age 16 now smoke daily. Had smoking among the young remained at the 1979 level, which was the lowest figure, over 4,000 16-year-olds would have been prevented from smoking.

Research data indicate that monitoring of the ban on smoking has relaxed in schools, and that under 16-year-olds commonly purchase cigarettes from 'kiosk-shops'. Young people have more pocket money than ever, permitting increased cigarette consumption.

Although the results of the 1987 survey sparked much public discussion of smoking habits in the young, none of the five measures recommended in the 1987 report has been implemented. This increased smoking has not been experienced as an issue serious enough for health education bodies to organize a joint campaign to prevent smoking.

This survey, carried out in the Department of Public Health Science of the University of Helsinki, was supported by the National Board of Health and the Academy of Finland.

Introduction

When the Parliament of Finland unanimously passed the *Act on smoking*, the goal was to reduce the health risks and hazards caused by smoking (*Act on smoking, 1976*). This objective was aimed for in the Act by means of reducing smoking. The Act

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Table 2. Percentages of 14 to 18 year-old boys and girls who smoked daily in 1973-1989, by age.

Age	Sex	1973	1977	1979	1981	1983	1985	1987	1989
14	Boys	17.5	11.3	9.4	15.4	14.7	13.2	16.3	16.1
	Girls	21.0	14.7	8.8	11.9	12.8	10.4	9.3	13.2
16	Boys	39.0	29.5	25.4	29.9	27.2	27.9	32.0	36.2
	Girls	32.3	27.1	24.5	25.3	22.9	25.2	28.8	29.0
18	Boys	43.9	40.6	35.5	36.0	34.3	32.0	36.7	38.2
	Girls	40.4	32.1	26.0	26.1	24.7	24.6	34.8	29.6
Total		32.3	25.9	21.3	24.1	22.8	22.2	26.3	27.1

As a predictor of health risk, smoking cigarettes daily is a central factor. Young people smoking more than nine cigarettes a day can be called heavy smokers. The proportion of heavy smokers increased steadily among both boys and girls throughout the 1980s. (see the figure on the cover and Table 3). The proportion of heavy smokers among 14 to 18-year-olds was 16.2 per cent in 1989, 15.5 per cent in 1987 and only 12.3 per cent in 1977. The proportion of heavy smokers has risen by nearly one-third since the Act on smoking came into effect.

The growth in consumption becomes even clearer if the number of heavy smokers is inspected with respect to the number smoking cigarettes daily (Figure 2). The proportion of those smoking more than nine cigarettes a day rose steadily after 1977, and in 1989 was clearly higher than in 1973, when smoking among young people had reached its peak. Although the amounts of hazardous substances contained in cigarette smoke have been reduced somewhat since the Act on smoking came into effect (cf. Rimpelä 1986), increased cigarette consumption among young people still means an elevated health risk due to smoking.

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the school they attended. The alternative responses were: completely banned, allowed in certain areas and allowed without restriction.

According to the responses, smoking is not completely banned even in schools attended by 12 to 14-year-olds. The proportion of 14-year-olds who felt that smoking in school was allowed had increased clearly from 1983 to 1987 (Table 5). This proportion appeared to be increasing further between 1987 and 1989.

The young people were asked how strictly smoking restrictions were monitored in their school. The alternative responses were: very strictly, rather strictly and hardly at all. The proportion of 14-year-olds who felt that smoking restrictions in school were not monitored had increased clearly from 1983 to 1987, and appeared to continue increasing (Table 6).

Table 5. Percentages of 14-year-olds in whose opinion smoking in their school was allowed in some areas or without restriction in 1977-1989.

1977	1979	1981	1983	1985	1987	1989
12%	6%	5%	6%	..	14%	16%

Table 6. Percentages of 14-year-olds in whose opinion smoking in their school was not monitored much at all in 1979-1989.

1977	1979	1981	1983	1985	1987	1989
..	14%	12%	11%	..	19%	22%

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but are not sufficient to reach the goals set, i.e., "A smokefree Norway Year 2000" (Action Plan for a Smokefree Norway Year 2000, 1989). A multifaceted, broad-spectrum, community-based approach must be implemented (cf. Coates, 1990). McManus, *et al.* (1989) describe an extensive community-based intervention program for smoking cessation. Bjartveit, Thürmer, and Nylenna (1990) have suggested that 1% of the tobacco income tax should be set aside for this work. We suggest (see Götestam & Götestam, 1990b) that this amount—which is 42.3 million NOK (about 6.5 million US\$)—be used to implement change of smoking behavior by a multimodal approach, including special programs for different groups, through a variety of intervention channels.

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been shown in relation to AIDS (Sundet, Magnus, Kvalem, Grönnesby, & Bakkeig, 1989). The old myth that behavior changes follow attitude changes still seems unproven. Of course, positive attitudes may be a good ground for later behavior change, but probably it is more effective to change the behavior first, and the attitudes will follow (cf. Lewin, 1943). It seems important also to offer specific treatment programs for smokers wanting to quit (Schwartz, 1987).

Smoking prevalence.—As already shown above, the number of daily smokers in Norway does not seem to have been reduced during the last ten years.

Norway's position in smoking cessation work.—The last ten years has been a period when in several other countries reports have indicated remarkable reduction in smoking. In a comparison by Pierce (1989)² of prevalence in 1977-87, USA, England, and Sweden had male prevalences from 24.0% to 35.0% while Norway had 41.3%, and similarly, for women these countries had prevalences of 26.8 to 31.0% compared to 33.3% in Norway. The reduction in these countries during the same period was reported for men as 22.5 to 25.0% compared to 8.0% in Norway and for women as 12.9 to 18.4% reduction compared to 12.0% increase!

DISCUSSION

It appears that all of the hypotheses and assumptions lack support. One of them is among the myths, i.e., the one about the relation between attitudes and behavior (cf. Lewin, 1943).

Of course, the present study does not disprove the underlying assumption that bans on advertisement and attitude campaigns affect smoking behavior. A possible change in tobacco sale and smoking prevalence could be neutralized by differences among sex and age groups and by changes in smoking patterns.

In a review, Hewitt and Blane (1984) looked at a dozen studies designed to implement changes in alcohol-related knowledge, attitudes, and behavior. The result was that out of 12 studies aimed towards changes in knowledge, 7 succeeded, 4 failed, and 1 gave mixed results. Out of the 9 studies aimed towards attitude change, only 2 succeeded, 5 failed, and 2 gave mixed results. Of the 12 studies aimed towards behavior change, 8 failed, 3 had rather unimpressive positive changes, and 1 mixed results. This review supports our conclusions that improvements in knowledge or attitudes do not necessarily result in change in behavior.

Collins and Cellucci (1991) reported an effect on knowledge but none

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TABLE 1 (CONT'D)

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Year	Percent Daily Smokers			Tobacco Sales (kg)	Incl. Customs Sales (kg)
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Note.—All percentages are computed on the total number of respondents, both smokers and non-smokers, except the quit smoking question.

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Frequency of smoking

The proportion of young people who were smokers was slightly higher in February-April 1989 than two years before. Now 27.1 per cent of 14 to 18-years-old were smokers (26.3% in 1987; Table 2). Since the response rate to the latest questionnaire was somewhat lower than in 1987, and since the previous years' results indicate that smoking is somewhat more common among nonrespondents than among respondents (see *Health habits in young people in 1979*), smoking daily has increased slightly among the young during the last two years.

Figure 1 shows the percentages of smokers, beginning with 1973. Daily smoking among boys increased by 2 percentage points after 1987. Daily smoking among girls increased in 1985-87 by 4 percentage points, and remained at that level in 1989 (about 24%). Table 2 shows the proportion of those smoking daily, by age and sex. The proportion of boys and of girls smoking daily was higher in 1989 than when the Act on smoking came into effect in 1977.

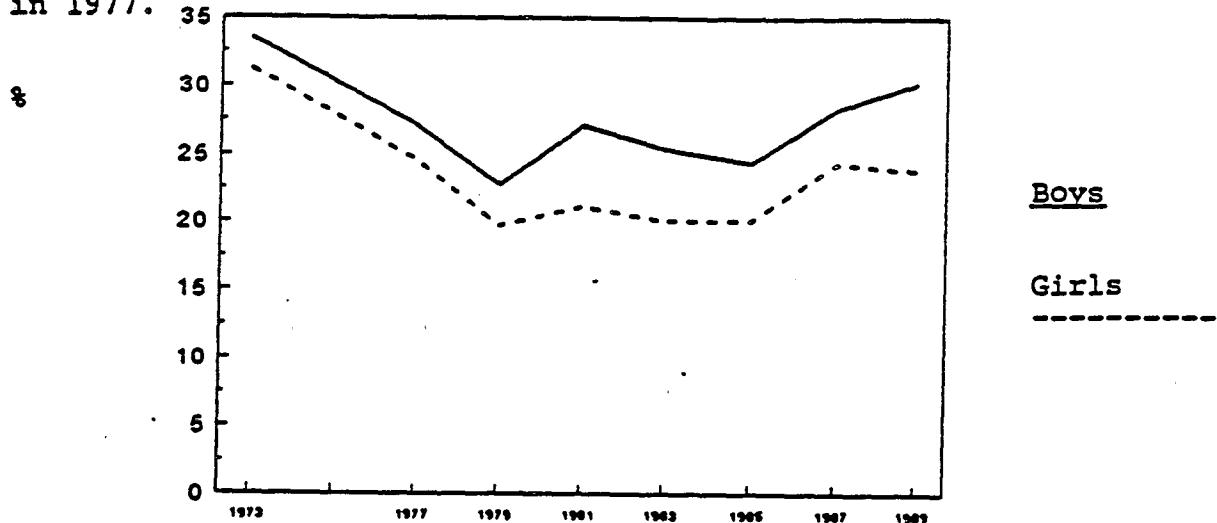


Figure 1. Percentages of 14 to 18 year-old boys and girls who smoked daily in 1973-89. Standardized for age.

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CHANGES IN SMOKING LEGISLATION, ATTITUDES, AND BEHAVIOR¹

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Summary.—Legislative changes and attitude campaigns are generally acknowledged to be effective in the battle against smoking and its health hazards. In some instances it seems as if these means are insufficient to produce necessary change. In this study, the following general hypotheses were posed: (1) an advertising ban leads to reduced tobacco sale and (2) to reduced smoking; (3) attitude campaigns improve attitudes about regulation of smoking and (4) reduce smoking. In addition, two national hypotheses were formulated. The results supported neither hypothesis! It is concluded that it is important to follow the development closely with scientific methods of high quality. Further, smoking campaigns must include a broad spectrum of interventions to be sufficiently effective.

In the campaign against smoking and its health hazards, different approaches have been used. Among the most widely used and most widely acknowledged as effective are legislative changes and attitude campaigns. We have noted some examples in which these approaches do not seem as effective as expected and so think this might be of interest to others working in the field; for details see Götestam and Götestam (1990a, 1990b, 1990c).

Hypotheses

Underlying hypotheses for reduction of smoking are the following: (1) an advertising ban reduces tobacco sale and (2) consequently reduces smoking; (3) attitude campaigns improve attitudes towards smoking regulation and (4) consequently reduce smoking behavior. Based on these hypotheses and considerable work along these lines, our government has in addition stated that (5) prevalence of smoking has substantially decreased during the last ten years (National Council of Tobacco & Health, 1990, p. 2) and (6) Norway has a prominent position in the work on cessation of smoking (Bjartveit, 1990).

To say that over-all smoking behavior has not changed significantly could be just another way of telling only half the truth. The data will probably be more interesting when one looks at them after dividing them into smaller groups, say, by sex and age. On this basis one could put forward the hypothesis that the ("less important") older people can account for such large numbers that the (possibly) great reduction among younger people makes a less visible contribution.

¹Reprint requests to Olof Götestam, University of Trondheim, Department of Psychiatry and Behavioural Medicine, Östmarka Hospital, PO Box 3008 Lade, N-7002 Trondheim, Norway. A preliminary version of the study was presented at the "Young Researchers Competition" in Oslo in 1988 by Olof Götestam.

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The information about classification and about the contents of hazardous substances has not been removed. The National Board of Health's 1989 plan for allocation of health education funds, however, states: "Elimination of tobacco products' risk classification is supported by growing evidence of its needlessness with respect to health and its directly misleading nature. Setting upper limits for contents of hazardous substances has been a warranted health measure. Elimination of classification also requires that words suggesting lightness be removed from product names and packages, as they create a wrong impression of the product's properties and health hazards" (National Board of Health 1989). This indicates that preparation for the change proposed in the recommendation has been initiated quite slowly.

3. Health education

Recommendation 1: "The National Board of Health will supervise preparation of a national anti-smoking programme meant for young people, the focus being primarily on choosing the right time to give health education in schools, school health care and youth work."

Recommendation 2: "A public information campaign reminding parents and young people of the hazards of smoking and the public health losses it causes will be carried out in the mass media several times."

Health education targeted at young people and intended to prevent smoking has not been described in detail recently. A short summary is given below.

Appropriations

In 1987, at the time when smoking among young people began to increase, use of funds appropriated for anti-smoking purposes, in accordance with §27 of the Act on smoking, was also expanded to cover health education more generally. In real terms, funds

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Table 3. Percentages of heavy smokers (those smoking more than nine cigarettes per day) among 14 to 18-year-old boys and girls who smoked in 1973-1989, by age and sex.

<u>Age</u>	<u>Sex</u>	1973	1977	1979	1981	1983	1985	1987	1989
14	Boys	5.2	2.9	2.5	4.3	4.7	4.8	7.8	8.0
	Girls	6.8	2.7	2.6	2.6	4.6	3.5	3.0	5.2
16	Boys	24.1	15.0	13.3	17.2	18.2	18.4	19.4	25.5
	Girls	13.0	9.5	9.2	7.9	9.8	14.5	11.1	13.6
18	Boys	33.9	29.7	24.3	26.0	25.1	24.8	30.6	29.6
	Girls	18.6	13.9	11.9	11.6	13.4	14.6	21.1	15.3
Total		16.9	12.3	10.6	11.6	12.6	13.4	15.5	16.2

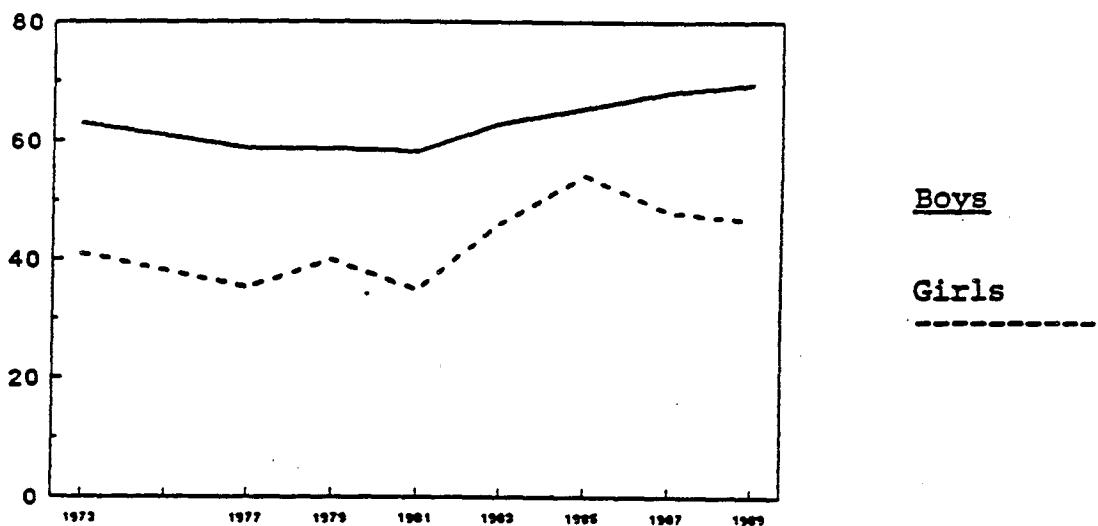


Figure 2. Percentage of heavy smokers (smoking more than nine cigarettes per day) among 14 to 18-year-old daily smokers in 1973-1989. Standardized for age.

Other tobacco products

Experimenting with snuff increased during 1981-87. The 1989 survey indicated that experimenting with snuff had become more common among 18-year-old boys and girls, but among younger age groups it had remained at the previous levels or may even have declined (Table 4).

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Daily use of snuff has been rare throughout the 1980s. In 1987 only one girl, and only 0.8 per cent of the boys responding to the questionnaire reported using snuff daily. According to the 1989 survey, use of snuff is still rare, though the proportion of boys who reported using it has increased slightly (1.4%).

Table 4. Percentages of 14 to 18 year-old boys and girls who had experimented with snuff in 1981-1989, by age.

<u>Age</u>	<u>Sex</u>	<u>1977</u>	<u>1979</u>	<u>1981</u>	<u>1983</u>	<u>1985</u>	<u>1987</u>	<u>1989</u>
14	Boys	..	..	13.4	18.5	..	17.3	16.6
	Girls	..	..	4.1	2.9	..	4.3	2.1
16	Boys	..	..	21.6	24.1	..	29.2	29.9
	Girls	..	..	7.3	7.2	..	8.3	8.8
18	Boys	..	..	20.7	27.0	..	31.1	36.0
	Girls	..	..	4.8	8.6	..	11.4	13.6
Total		..	..	12.0	14.7	..	16.9	17.8

Young people smoked cigarettes almost exclusively. None of the respondents reported mainly smoking a pipe or cigars. Nearly all girls and some 96 per cent of boys smoking daily reported principally smoking factory-produced cigarettes. The popularity of self-rolled cigarettes has declined continually since the late 1970s, and continued to do so after 1987.

Permission to smoke and monitoring in schools

Section 13 of the Act on smoking states: "Smoking is forbidden: 1) in those areas of day nurseries, schools and other corresponding facilities meant for children of school age or younger;...". Smoking is thus banned in all schools where there are pupils under the age of 16. Respondents to the questionnaire surveys of 1979-1989 were asked whether smoking was allowed in

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also been agreed with those keeping student cafeterias that smoking not be allowed in the cafeterias, and that cigarettes not be sold there. According to the National Board of Vocational Education, institute-specific projects are needed, but they are difficult to carry out for lack of financial resources.

Material for health education

Throughout the 1980s the Finnish Council for Health Education has had much material, produced by public health and other organizations and designed for young people, to offer, including leaflets, posters and stickers, videos and teaching packs. The health education material seems to be up-to-date, as in 1988 the number of anti-smoking videos meant for young people increased considerably; the emphasis had previously been on posters.

Organizations

Organizations have sponsored anti-smoking health programmes for young people, but assessed on the basis of the plans (1988, 1989) for allocation of health education funds prescribed by the Act on smoking, they have received little funding from the National Board of Health. Many organizations have also produced anti-smoking materials for young people. No clear data, however, are available to indicate whether the information has reached its target group.

Summary

The 1987 report recommended that a nationwide health education campaign be organized to prevent young people from smoking. This has not been done. Nor have the programmes mentioned above paid systematic and specific attention to the hazards of smoking or to its public health significance, so in this respect, too, the recommendation has not been realized.

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PRELIMINARY REPORT TO THE NATIONAL BOARD OF HEALTH, MAY 1987

CHANGES IN ADOLESCENTS' HEALTH HABITS 1977-1987

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On the basis of paragraph 27 of the Tobacco Act the National Board of Health provided a grant to finance the collection of research data in 1987.

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prescribed measures for reducing smoking; these included bans on advertising and on smoking in public places, restrictions on tobacco sales for those under 16 years of age, restrictions on smoking in schools and similar facilities used by young people, and intensified health education.

To monitor the realization of the Act's objectives, the *Survey of health habits in young people* was begun in 1977 to follow young people's smoking habits and changes in them, the first questionnaire survey being carried out just before the *Act on smoking* came into effect in February 1977 (see *Survey on health habits in young people 1979*, Rimpelä et al 1987).

Bringing up a nonsmoking generation and preventing children and young people from smoking were already central objectives in the 1970s (Working group on smoking policy 1980). On the basis of the results of the *Survey of health habits in the young* (1987), however, the research team concluded that: "The latest data on smoking among the young confirm that Finland has not succeeded in preventing them from smoking, or in bringing up a non-smoking generation." (Rimpelä et al 1987):

- smoking among young people had become clearly more common during 1985-1987, when it was as frequent as in 1977, i.e. when the *Act on smoking* came into effect
- the daily cigarette consumption of 14 to 18-year-olds had increased, and the proportion of 14 to 18-year-olds smoking more than nine cigarettes a day approached that of the early 1970s
- experimenting with snuff has become more common in the 1980s, though daily use of snuff remains rare
- according to assessments made by 14-year-olds, banning of smoking in school, and monitoring of such bans, had relaxed in 1987 as compared to the situation in the early 1980s
- despite the ban on sales, 14-year-olds were generally able to purchase cigarettes from kiosks and even from shops

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1. Pricing policy

Recommendation: "The retail price of tobacco products shall be increased essentially, taking into consideration the increases in pocket money at the disposal of young people and the purchasing power of young people. The cost of self-rolled cigarettes and snuff shall be increased simultaneously so that pricing policy does not favour their consumption."

The fifth operational principle of Health for All by 2000, Finland's long-range health policy programme, states: "...In accordance with the objectives expressed in legislation concerning tobacco products and their taxation, the retail prices of tobacco products shall be increased each year at least in keeping with the annual general price increases and, in the long term, also correspondingly to consumers' increased purchasing power..." (Ministry of Social Affairs and Health 1986). Early studies have shown that smoking among young people, particularly the number of cigarettes smoked daily, is strongly correlated to the pocket money available (Rimpelä & Eskola 1977, Rimpelä 1980, Rimpelä et al 1987, p. 78).

The price of tobacco products has been raised six times between January 1987 and January 1989 (Official Statistics of Finland 1989a and b). The increases have raised the costs of tobacco products slightly more than the general price level has increased. The price increases have restored the real cost of tobacco products to the level of the early 1980s (National Board of Health 1989). At the same time, consumers' purchasing power has increased considerably, and compared to this tobacco products have become cheaper. The mutual price relationship between tobacco products has not changed essentially during 1987-1988, though in the last increases, the price of snuff rose proportionally more than the prices of other tobacco products.

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Changes in the pocket money at the disposal of the young reflect the changes in the real purchasing power of young people. In 1987 it was already evident that pocket money at young people's disposal had increased clearly in the 1980s, whereas the real price of cigarettes remained unchanged (Rimpelä et al 1987, Figure 3). Measured as pocket money, young people's real purchasing power has continued to rise clearly more rapidly than the price of a pack of the cigarette brand most popular among the young (Figure 3).

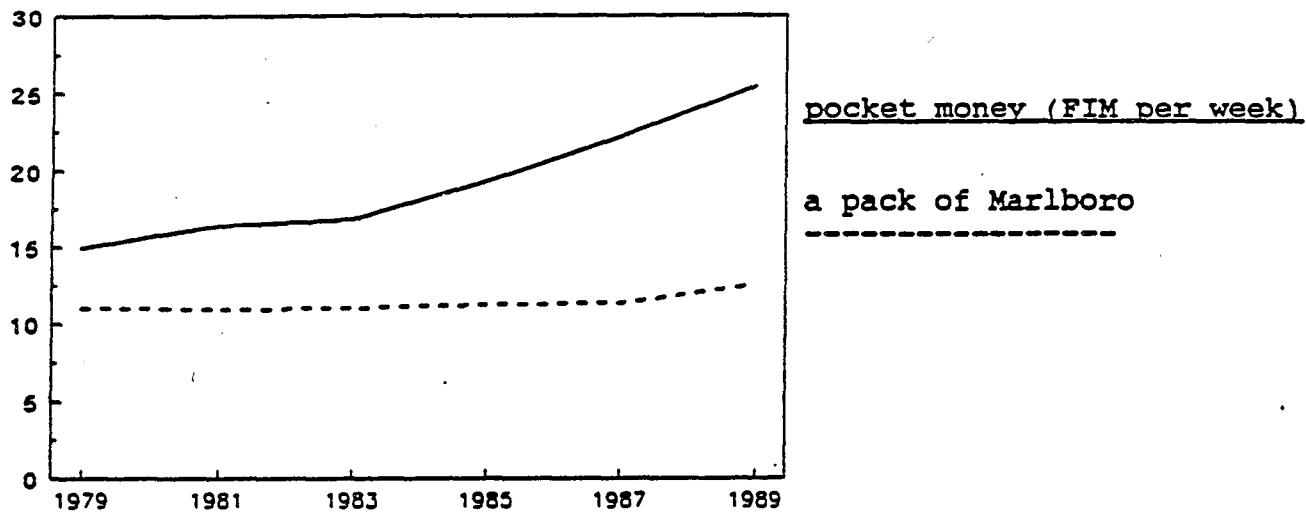


Figure 3. Fourteen-year-olds' pocket money (FIM per week) and the price of a pack of Marlboro cigarettes in 1979-1989, converted to 1989 currency. Pocket money is given as a median amount.

2. Classification of and contents of hazardous substances in tobacco products

Recommendation: "Misleading information about classification and about the contents of hazardous substances should be removed from cigarette packs immediately."

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SVT, Tupakkatilasto 1989. Tammikuu-Maaliskuu. [Official statistics of Finland. Tobacco statistics for 1989. January-March]. Terveys 1989:4. Tilastokeskus.

Valtion lääketieteellinen toimikunta. Terveyttä kaikille vuoteen 2000 - tutkimuksen kehittämishjelma. Suomen Akatemian julkaisuja 12/1988. [Medical Research Council. Health for All by 2000 - research development programme. Publications of the Academy of Finland 12/1988]. Helsinki 1989.

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This survey did not investigate young people's concepts of smoking and health education. Nor have other surveys provided data suitable for making generalizations. Surprisingly little information is available about anti-smoking health education meant for young people. It is thus impossible to establish whether health education has been too little in quantity or too ineffectual to influence young people's smoking habits.

The 1987 research team invested both time and resources to ensure that the authorities, the central professional groups, political decision-makers and organizations would be well informed of the rise in smoking. Through the mass media, they also informed the public, aiming particularly at parents of young people of school-age. Lively public discussion of young people's smoking habits ensued. Unfortunately, the latest survey shows that this detrimental development is still continuing, nor were preventive measures initiated in the interval between the surveys, i.e. between spring 1987 and February 1989, when collection of data for this survey began. Why, then, have unequivocal research findings not spurred action (see Rimpelä & Rimpelä 1989)?

Suggested measures

When assessing measures to reduce smoking, the crucial question is: How meaningful a public health issue is the increase in smoking among young people considered to be? The steps taken in the past two years suggest that the rise in smoking among the young does not worry health and school officials, organizations or political decision-makers. Measures to reduce smoking among young people thus far have involved only talk, but little action.

The previous report suggested that both young people and their parents should be kept informed of the public health significance of smoking. This means simple, basic facts about the extent of hazards. The base for reducing smoking and, indeed, of the Act on smoking itself, is promotion of public health. Once this base becomes obscure, the discussion again takes on moral overtones

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in the section defining the intention of the Act on smoking, the Ministry of Finance has not taken a serious approach to the objective of reducing smoking. On the contrary, the past few years have been very profitable for the Finnish tobacco industry, with profits on invested capital surpassing even the 30 per cent level (see Suomen Tupakka 1987). More than ten years after legislative reform, pricing policy still favours commercial interests over public health interests.

Numerous research reports on smoking among young people have been published recently, but they have concentrated mainly on young people themselves and their smoking habits. Almost no data are available concerning the anti-smoking work done by schools, organizations, health care, officials for youth affairs and the mass media. Research work in general has followed the medical tradition, with studies focusing primarily on the disease and not so much on systems for its prevention and care, i.e. not so much on action (see also Medical Research Council 1989).

Since little is known about the practical anti-smoking work being done among young people, it is difficult to make any conclusions about which operational alternatives are best. A detailed study on experiences gathered both in Finland and abroad, and formulation of an extensive and unified national programme on the basis of the findings, are urgently needed. The initiative for and harmonization of this work belongs to the sphere of the National Board of Medicine.

As we approach the 1990s, it is difficult to find interest groups seriously committed to anti-smoking work among young people even though the rising trend has long been evident. Both health authorities and public health organizations have stayed surprisingly quiet. In this situation the pivotal professional groups - health care personnel and teachers - take on crucial significance. If they, too, fail to take the challenge of smoking among young people seriously, no change in the rising trend of smoking is likely to occur in the 1990s.

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- young people's attitudes concerning health education about the hazards of smoking and the sales ban were more negative than at the end of the 1970s.

This report is based on the questionnaire survey carried out in February-April 1989. Its objective is to assess implementation of the Act on smoking during 1987-89, using as indicators (a) the frequency of smoking among young people and their daily cigarette consumption, (b) young people's experience of allowing smoking at school and monitoring of smoking at school and (c) tobacco product purchases by the young. The report determines trends in smoking among young people during 1973-89. It also inspects the degree to which the recommendations made in Rimpelä et al's *Survey of health habits in young people in 1979* (1987), concerning reducing smoking among the young, have been realized; and it describes briefly the steps taken by various parties in 1987-89 to reduce smoking among young people.

As in previous years, the material for 1989 was gathered by means of a postal questionnaire in February-April (see Rimpelä et al 1987). The sample represented all Finnish youth aged 12, 14, 16 and 18 years. The response rate was 80 per cent. Table 1 presents the sample sizes and response rates for the *Survey of health habits in young people in 1977-89*. Further, the data are compared with a questionnaire of young people carried out in 1973 (Ahlström 1975), which is largely comparable to the findings of the *Survey of health habits in young people* (see Rimpelä et al 1987).

Table 1. Sample size, number of respondents and response rates in questionnaires carried out in 1973-1989.

	1973	1977	1979	1981	1983	1985	1987	1989
Respondents (n)	3 673	2 832	4 275	4 140	3 734	3 354	3 268	3 220
Sample (n)	4 510	3 209	4 953	4 705	4 483	4 208	3 908	4 025
Response rate (%)	81	88	86	88	83	80	84	80

A central goal of the 1987 study has also been to test how rapidly the first results can be produced with the help of intensified data technology. The research data were collected in February and March and the last forms were received on 15 April. This report presents the first verified findings for 1987 and examines changes in health habits on the national level since 1977. Changes in smoking and the use of alcohol can be studied beginning in 1973, when the Social Research Institute of Alcohol Studies collected national data on adolescents.

Helsinki, 27 May 1987

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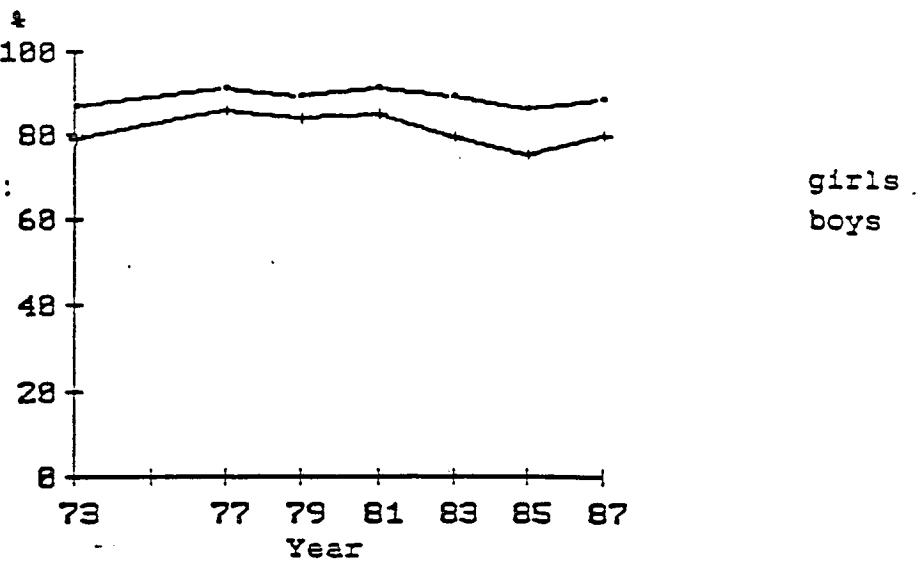


Diagram 1. Response percentages among girls and boys by survey year.

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available for anti-smoking efforts have decreased following amendment of the Act on smoking (January 1, 1988), as appropriations now should be used not only for anti-smoking purposes but also for other health education and the supporting research, follow-up and enlightenment work.

National anti-smoking programmes meant for young people

Plans for an anti-smoking programme meant for young people began in summer 1987 (National Board of Health 1988). These plans were not realized to the extent intended; instead it was decided to intensify cooperation with sports organizations, the purpose being to prevent the young from smoking or experimenting with snuff. Further, a public information programme, with the theme 'Nicotine for the hungry,' was directed to specific youth groups (Tapani Piha, personal communication, May 21, 1989).

In the 1980s health education to reduce smoking has experimented with various approaches, from health education proper to different kinds of cooperation programme and campaigns (cf. National Board of Health 1987-1989). In the light of the present data on smoking among young people, these experiments have had little effect.

Finland has had almost no long-term, systematic and extensive health education programmes concerning smoking directed at young people, yet halting the increasing frequency of smoking among the young is the main objective of the National Board of Health's plans (1989) for health education funds in 1989-90. The plans for 1989, however, mean continuation of only two fairly widespread health education programmes, organized by the National Board of Health and directed at young people: the Young Finland programme (started in 1987) and the No Smoking Team programme (started in 1985).

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Conclusion

The health hazards caused by smoking can be reduced only through a reduction in smoking. From the perspective of health, the trend is negative even if the figures on smoking remain unchanged. This is stated clearly in the Act on smoking: "This Act prescribes measures which, by REDUCING SMOKING, are aimed at preventing the rise of health risks and hazards caused or enhanced by smoking."

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PREFACE

The Follow-Up Study Concerning Adolescents' Health Habits ("Adolescents' Health Habit Study" = NTTT) was started in 1977 with the primary goal of investigating changes in smoking habits. Since then a national survey of adolescents has been conducted every other year and the research programme has been expanded to cover other important health habits and health problems in addition to smoking.

The research programme was initially begun by the Public Health Department of the University of Tampere. Since 1983 surveys have been conducted by the Public Health Department of the University of Helsinki. The principal funder of the study has from the start been the National Board of Health, which has annually supplied the research team a grant out of funds appropriated in accordance with paragraph 27 of the Tobacco Act. In addition to the nation's universities, the other main source of funding has been the Academy of Finland.

The study was started by a multidisciplinary team of researchers, and over the past ten years a total of around twenty researchers have taken part in planning questionnaires, collecting data and reporting results. Mr Matti Rimpelä, Lic. Pub. Health, has served as the director of the research programme from the start.

The 1977, 1979, 1981, 1983 and 1985 surveys were conducted according to a plan devised at the start of the study. Questionnaires were posted in February of these years to samples representing all 12-, 14-, 16- and 18-year-olds in the nation. In 1987, along with the national sample, additional samples were selected according to province, including about 1,100 adolescents from each province. In addition to the basic report covering the nation as a whole, the goal is to produce reports for each province so as to increase the practical significance of findings to the promotion of adolescents' health.

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Tobacco product purchases

Section ten of the *Act on smoking* states: "Tobacco products and accessories may not sold commercially or given to anyone apparently younger than 16 years of age."

In 1977-1989 the young people were asked whether they had purchased any tobacco product during the past month. Fourteen-year-olds may undoubtedly be considered those "apparently younger than 16 years of age", as meant by the Act. In February-April 1989, however, some 15 per cent of 14-year-olds had purchased some tobacco product for themselves from kiosks (Table 7). The proportion who had purchased some tobacco product from kiosks increased throughout the 1980s, and the proportion purchasing tobacco products from shops remained at 6 to 8 per cent.

Table 7. Percentages of 14-year-olds who had purchased tobacco products for themselves from kiosks or shops in 1977-1989.

	1977	1979	1981	1983	1985	1987	1989
From kiosks	12%	8%	11%	13%	..	14%	15%
From shops	10%	6%	6%	7%	..	6%	8%

Implementation of the recommendations proposed by the 1987 report

The results of the 1987 *Survey of health habits in young people* discussed steps that could be taken to reduce smoking among the young. The recommendations concerned pricing policy for tobacco products, classification of tobacco products and contents of hazardous substances, health education and the sales ban.

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It seems that in the past two years, the results of the 1987 survey, indicating an increase in smoking among young people, have not prompted a more active approach. At present, actions are still only being planned.

Comprehensive schools and senior secondary schools

Instead of emphasizing the rules and restrictions associated with smoking, the National Board of General Education has given priority to developing teaching methods so that the message of health education comes across more efficiently. The departure point has been deliberation of the impact that health education has had, and linking health education more broadly to young people's everyday lives. The results are not yet visible, as assessment of impact is a long-term process (Pirkko Holopainen, personal communication, May 22, 1989).

No overall survey has been done to determine the health education pertaining to smoking now given at school and how it is given.

Institutes for vocational training

In conjunction with educational monitoring visits in the provinces, the National Board of Vocational Education has checked that smoking is banned indoors. The number of smokers' rooms has in fact decreased considerably in the past six years. The situation as to smoking has also been surveyed in many institutes for vocational training, but no data are available concerning measures initiated as a result of those surveys (Anna-Ester Liimatainen-Lamberg, personal communication, May 22, 1989).

Use of alcohol and smoking in student residences under the auspices of the National Board of Vocational Education (accommodating 37,000) have been banned since the ordinance governing them was revised in 1987 (Compilation of the ordinance for student residences 501/500/87). In vocational training institutes mainly for adult students, the intention is to keep

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4. Sale of tobacco products

Recommendation: "Monitoring the sale of tobacco products to those under 16 years of age should be intensified, and sales outlets selling tobacco products in violation of the sales ban should be held accountable."

In a letter dated April 17, 1988, the National Board of Health has given municipal health and temperance boards additional instructions concerning monitoring of the Act on smoking, and has asked these boards to report the steps they have taken. As far as is known, not one penalty has been given for infraction of the sales ban. The ban on sales of tobacco products to those under 16, in fact, is not monitored at all, and such sales are apparently becoming more and more common.

The recommendations put forward in the 1987 report thus had not been carried out when data collection for this survey began in February 1989.

Discussion

The previous report found that smoking among young people had increased clearly in 1985-87. The latest results do not suggest a change in this increasing trend, but indicate that smoking is still becoming more common or at least remaining on the level. The conclusion that smoking is increasing is reinforced when changes in the response rate are taken into account.

Consumption of cigarettes, in particular, has been rising throughout the 1980s, and has now exceeded the level consumed when the Act on smoking came into force. Among those smoking cigarettes daily, the proportion smoking more than nine cigarettes a day is now greater than in 1973, when smoking among young people had been the most common to date.

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3. FINDINGS

3.1 SMOKING

3.1.1. FREQUENCY OF SMOKING AND DAILY CONSUMPTION

Smoking has clearly increased among adolescents during the period 1985-87 (diagram 2).

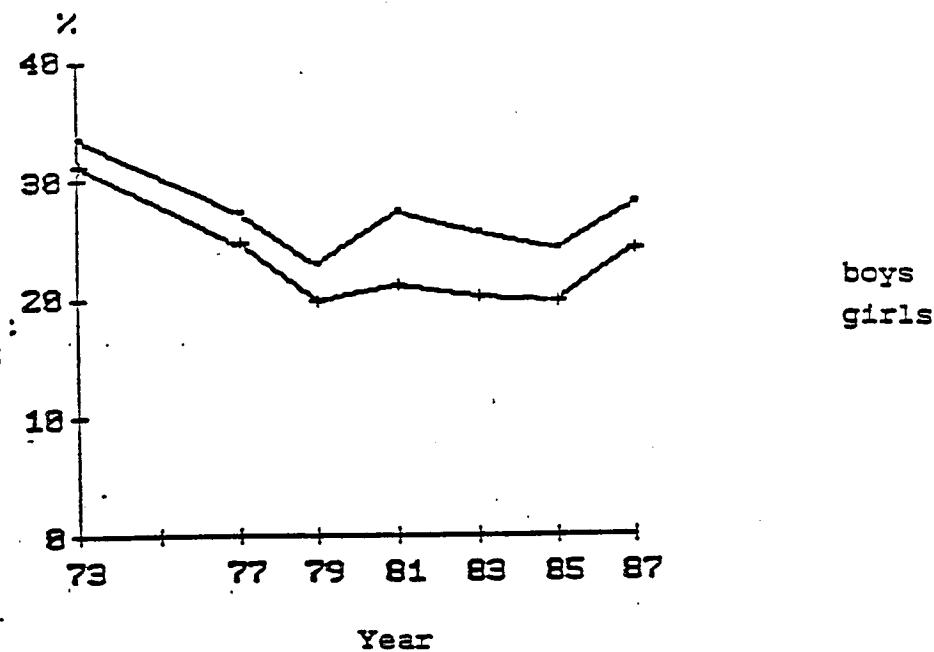


Diagram 2. Percentage of boys and girls smoking daily.

In the youngest age group the changes are small. It appears that experimentation with smoking among 12-year-olds has remained at the same level since the mid 1970s (appendix tables 3-5).

In the early 1970s 14-year-old girls smoked more than boys. In 1977-79 smoking declined among girls and the difference in comparison with boys disappeared. In the 1980s 14-year-old boys have begun smoking more than earlier, with girls remaining on the late 1970s level. In February 1987 about 16% of the boys in this age group smoked daily, while the correspond-

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collection and therefore does not include detailed analyses and discussions. These will be presented in a broader report to be published later. The present report presents findings regarding the following habits:

- smoking
- the use of alcohol
- drug experimentation among acquaintances
- tooth brushing
- exercise
- the consumption of milk and butter
- the consumption of buns and similar baked goods
- the consumption of sweets
- the consumption of coffee.

2. DATA AND METHODS OF THE 1987 SURVEY

Since the beginning of the research programme all 12-, 14-, 16- and 18-year-olds born on certain days in July have been included in the sample representing adolescents. As the survey has been conducted in February, the respondents have been quite close to the ages of 12.6, 14.6, 16.6 and 18.6 years old. The research programme has followed the habits of certain birth year cohorts as the adolescents have grown older, with part of the adolescents answering several questionnaires at intervals of 2-4 years. The 1987 survey also included a so-call trend study sample and additional samples for each province. The trend study sample is comparable with earlier data representing the nation. This sample includes adolescents born on the following dates, who answered the questionnaire for the first time this year (numbers are presented in appendix table 1):

- 12-year-olds: those born on 20-25 July 1974
- 14-year-olds: those born on 14-19 July 1972
- 16-year-olds: those born on 14-19 July 1970
- 18-year-olds: those born on 14-19 July 1968

The results for each province are not presented in this preliminary report. The research data were collected through a posted questionnaire, with the objective of achieving as high a response as possible. This objective forced the team

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1. INTRODUCTION

The assumptions of the Research Programme Concerning Adolescents' Health Habits ("Adolescents' Health Habit Study") and the findings for the period 1977-81 have been presented in several earlier reports (e.g. Rimpelä et al 1983). Changes in the most important health habits were rather clear-cut up to 1981. For example in the case of smoking and the use of alcohol they showed a clear decline compared with the first half of the 1970s.

In the early 1980s changes in health habits were no longer so clear. In part they followed the goals of health promotion: tooth brushing was intensified and the use of milk fats declined. The decline in smoking and the use of alcohol came to a halt, however, and the results of the 1985 survey gave reason to suspect that smoking was becoming more widespread among adolescents. The changes were not sufficiently significant logically and statistically, however, to allow conclusions regarding a negative trend to be drawn. Because of this uncertainty no special efforts were made to publish the findings for 1983 and 1985.

The 1987 survey provided an opportunity to examine changes in adolescents' health habits over a ten-year period using highly comparable data. In preparing the questionnaire the research team decided it would strive to publish the findings as quickly as possible regardless of how conclusive the findings might be regarding the trend and magnitude of changes. In this respect the findings nevertheless proved more conclusive than in previous years, showing clear changes in several habits. The most important observation was a clear increase in smoking and the use of alcohol among adolescents during the period 1985-87.

Owing to the clarity and importance of the findings, we have assembled in this preliminary report trend data for the most important habits covering the period 1977-87. Detailed age- and sex-based data are presented in the appendix tables. The preliminary report was written one month after the end of data

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These findings support the most important conclusion of the 1987 report: "The latest data on smoking habits among young people prove that efforts to prevent young people from smoking, and to bring up a nonsmoking generation, have failed in Finland."

In 1989, every third 16-year-old smoked daily. This means that there are now more than 18,000 16-year-olds who smoke daily. If the proportion of smokers had not increased since 1979, when it was the lowest (one in four), some 4,300 16-year-olds would not have started smoking.

Use of snuff has been said to have increased, particularly among athletes. The findings of this survey indicate, however, that snuff is spreading to Finland rather slowly. Although nearly one in three 18-year-old had experimented with snuff, its daily use is still rare. If concentrated efforts continue to be made, by means of pricing policy and other measures, it is possible to prevent this habit from spreading to Finland.

Execution and monitoring of the provisions of the Act on smoking appear to have weakened after 1987: In 1989 more than half of the young people reported having seen advertisements for cigarettes during the last month (Hara-Eteläharju & Rimpelä 1989). Moreover, the findings of this survey indicate that monitoring of the bans on smoking in schools has relaxed still further, and those under 16 appear to be buying tobacco products more and more commonly.

Although the pricing policy for tobacco products outlined in the Health for All programme emphasizes that the cost of cigarettes should be proportional to consumers' purchasing power, this has not been taken into consideration. Young people can afford to buy cigarettes more easily, as they have more money to spend. This observation is supported by the fact that the popularity of self-rolled cigarettes has continued to decline.

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still small. Only about 5% of the boys in the older age groups reported using snuff currently (occasionally or daily). Among girls and 12-year-old boys snuff users amounted to 0.5% at most. Daily use of snuff is still exceptional in Finland. Only 1.6% of 16-year-old boys fell into this category. In other age groups individual boys used snuff daily. Only one girl reported daily snuff use.

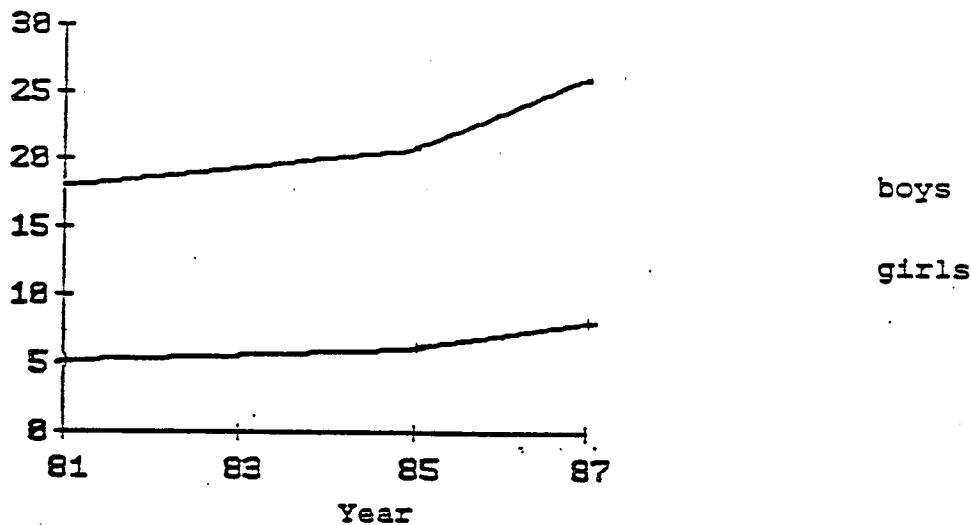


Diagram 3. Percentage of those having tried snuff among girls and boys 14 to 18 years old. Age standardized.

3.1.3. ALLOWING OF SMOKING AT SCHOOL

When the Tobacco Act and a long-term programme to reduce smoking were being drawn up in the early 1970s, particular emphasis was placed on environmental changes supporting non-smoking. On the other hand, the allowing of smoking at school was one major demand among adolescents with regard to reforming school life. The goal of the health-oriented tobacco policy was the opposite.

The 1977-83 and 1987 surveys investigated the school smoking situation by means of the following question: "Is smoking allowed at the school or institute you attend?" Answer options were: forbidden completely, allowed in certain places

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to limit questions to matters on which adolescents can easily provide answers and which do not awaken objections among parents. Thus many important questions from the viewpoint of health habit research regarding attitudes and information have been left out. For example sexual behaviour has only been dealt with superficially in a few questions regarding dating and birth control.

In the period 1977-81 the response rose to a level of 86-88 per cent (diagram 1). During the next two years the response percentage declined, amounting to about 80% in 1985 (appendix table 2). Respondents to questionnaires regarding health habits are selected to some extent according to the habits studied, with persons having detrimental health habits being more prevalent than average among non-respondents. Large fluctuations in response percentages can thus decrease the comparability of findings for different years. In preparing the 1987 questionnaire a particular goal was to return the response percentage to a level close to that of the 1970 surveys. The questionnaire itself was shortened and its layout was modified. The questionnaire concentrated on habits for which information was available from at least two previous surveys.

The first questionnaire was posted at the beginning of February. A new questionnaire was sent to non-respondents about three weeks later and again about two weeks after that. The data were coded and recorded on 6 April, after which verifications were made and new variables were formulated in accordance with practice established in earlier years (see NTTT 1979, Rimpelä et al 1983).

The response percentage for the 1987 questionnaire was 83. Girls responded more actively than boys, and the response was lowest among 18-year-old boys (appendix table 2). Nevertheless the response figure rose in all age and sex categories to at least 70% and in many cases to nearly 90%. The response percentage does not create any substantial problems from the point of view of comparing results with the findings for earlier years.

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stantly aware of the detrimental effects of smoking.

2. In cooperation with each other the National Board of Health and the National Board of General Education should without delay draw up a detailed plan of action to reduce smoking among adolescents particularly at vocational and senior secondary schools. In addition to health education, emphasis should be placed on the monitoring of no-smoking rules at schools and the observance of prohibitions on the sale of tobacco.
3. To reduce the erroneous feeling of safety caused by light cigarettes, the harmful substance classification and defective harmful substance data system should be eliminated from cigarette packets and effective information should be provided on the harmfulness of so-called light cigarettes.
4. The retail prices of cigarettes should be increased so that the rise in purchasing power will not increase demand.

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on attitudes or behavior (alcohol involvement) after evaluating an "alcohol education presentation with a media component of public service announcement." Further, there was no correlation between knowledge and either attitudes or behavior (alcohol involvement). There was, however, a strong negative correlation between behavior (alcohol involvement) and attitudes.

Cameron and Playfair (1991) argue that barring contaminated blood has worked much better than education to reduce the AIDS risk. They refer to Ekstrand and Coates (1990) as an example of education that does not work and cite the upwardly mobile pattern of AIDS between the years 1984 and 1990. These increases were, however, around 50% in the first two years, and thereafter only 10%, weakening their criticism. Furthermore, there are several educational programs or attitude campaigns related to AIDS (i.e., Sundet, *et al.*, 1989) with much less impressive changes than in the Ekstrand and Coates (1990) study, supporting these authors' conclusions that more practically oriented intervention and training are more effective than campaigns based only on information. Needle-sharing, and consequently spread of HIV, has been possible to reduce by specific exchange schemes, both in the USA and in Europe (Guydish, Abramowitz, Woods, Black, & Sorensen, 1990; Stimson, Alldritt, Dolan, & Donoghoe, 1988).

Further, few reports have empirically dealt with changes in behaviors in relation to improved health. Ekstrand and Coates (1990) reported change and maintenance of safer sexual behaviors in homosexual men in San Francisco. According to self-reports, some unsafe behaviors were reduced from about 35% in 1984 to 2 to 4% in 1987. Among the predictors for safer sex were being older, having friends/lovers with AIDS, and earlier sex habits. The ingredients of this multifaceted, community-level risk-reduction intervention program (described by Coates, 1990) was based on behavior change ascertained by the use of information, motivation (increased sense of personal threat), skills training (by demonstration and modeling), and change in peer norms. The program worked through a variety of existing avenues, like schools, worksites, health care facilities, organizations, churches, and clubs. The program was also extensively empirically evaluated over time (Ekstrand & Coates, 1990).

Conclusions

Scientific conclusions.—It is of utmost importance that the actions taken are closely followed empirically over time. This work should be done at the highest possible scientific level to enable clear descriptions and valid conclusions. It is also necessary to follow parallel development in countries or environments where commensurability is high. Changes or lack of changes, departing from parallel arrangements in other countries, could then make us more attentive to reasons why imposed actions do not work as expected.

Practical conclusions.—The actions taken in Norway so far may be good

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3.1.4. TOBACCO PURCHASING

According to the Tobacco Act the sale of tobacco products to "persons obviously under the age of 16" is forbidden. The purpose of this regulation has been to decrease the availability of cigarettes and thus promote non-smoking among adolescents.

In the 1977-83 and 1987 surveys adolescents were asked whether they had bought tobacco for their own use during the past month and if so from which of the following sources: shops, kiosks, friends, elsewhere.

Of the age groups in this study 12- and 14-year-olds undoubtedly fall into the category of "persons obviously under the age of 16". In the February 1987 survey about 1½ of the youngest age group reported having bought tobacco for their own use from a kiosk. None had purchased tobacco from a shop. It appears that kiosks quite freely sell tobacco to 14-year-olds, since 16% of the boys and 12% of the girls in this age group said that they had bought tobacco from a kiosk during the past month. About 6½ of 14-year-olds had purchased tobacco from a shop.

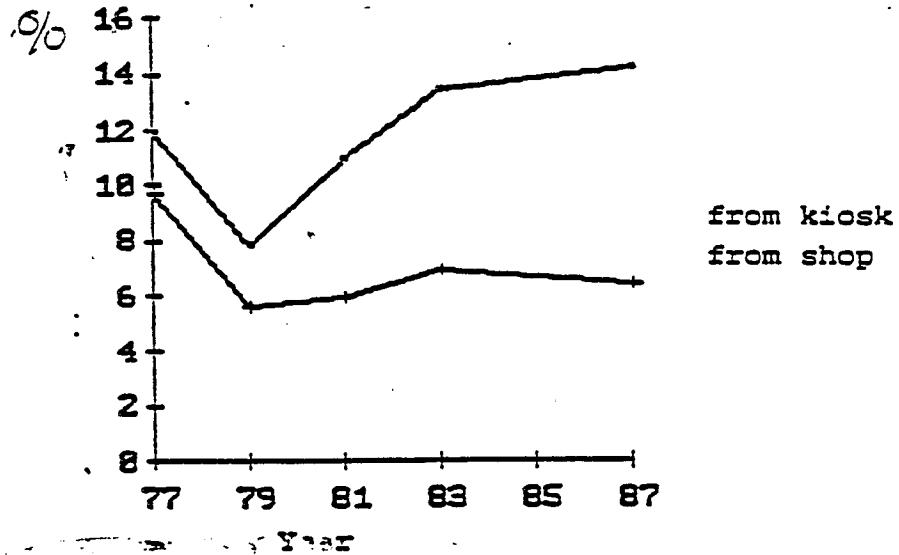


Diagram 4. Percentages of 14-year-olds having bought tobacco from a shop or kiosk during the past month by survey year.

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about recommended behavioural habits, a topic of discussion traditionally used by the tobacco industry.

The recommendations made in the 1987 report were directed primarily at the National Board of Health. A mass media programme on the hazards and public health significance of smoking is still worth considering. The recommendation that tobacco products' risk classification be eliminated is also topical. The illusion of 'safety' created by the wording 'light cigarettes' may well explain the increased commonness of smoking and, in particular, the rise in the number of cigarettes smoked daily.

Expansion of the scope of application of funds specified in §27 of the Act on *smoking* to include general health education in reality has meant a drop in the funds available for anti-smoking activities at a time when young people are smoking more. Directing the proceeds of tobacco duties to general health education in itself is a justifiable solution, but it should be implemented without reducing the funds available for anti-smoking activities. This could be accomplished by adding a second clause to §27 of the Act on *smoking*, specifying that 0.5% of the proceeds of tobacco duties be directed to anti-smoking activities, an idea put forward by Parliament already in 1976. The real value of these funds should increase enough so that other health education can receive support without decreasing the funds available for anti-smoking measures. Preparation of such a revision belongs to the sphere of the Ministry of Social Affairs and Health.

The National Board of General Education and the National Board of Vocational Education guide and monitor schools. The reduction in smoking aimed for in the Act on *smoking* is based specifically on health reasons; the task has been delegated primarily to the National Board of Health. This may partially explain the passivity of the National Board of General Education and the National Board of Vocational Education with respect to smoking.

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and allowed without limitations. This question investigates adolescents' own experience of smoking limitations. In principle, smoking is now forbidden at all comprehensive schools.

No 12- or 14-year-olds reported in any of the surveys that smoking was allowed without limitations at their school. In 1979-83 only 1-2% of the youngest age group and 5-6% of 14-year-olds were of the opinion that smoking was allowed in certain places at school. In February 1987 the opinions of 12-year-olds had not changed, but among 14-year-olds the percentage choosing this option had more than doubled and was even higher than the figure in February 1977, before the Tobacco Act came into force (table 1).

Table 1. Percentages of 14-year-olds answering "smoking allowed at school in certain places" by survey year.

1977	1979	1981	1983	1987
12%	6%	5%	6%	14%

In 1979-83 and 1987 an additional question was used to determine how adolescents feel about the monitoring of smoking limitations: "How strictly are smoking limitations monitored at your school or institute?" The response options were: very strictly, fairly strictly and not at all.

The youngest age group's view of monitoring has remained unchanged since 1979. In 1981-87 over half of the 12-year-olds (57-58%) reported that smoking limitations were monitored very strictly while about one in ten said that limitations were not monitored at all.

14-year-olds considered the monitoring of smoking limitations considerably slacker: only 21-23% regarded monitoring as very strict. This percentage has remained the same throughout the 1980s. In 1979-83 the option "not at all" was chosen by 11-13% of the adolescents in this age group, but in February 1987 the figure was no less than 19%. A growing portion of adolescents at an age to start smoking feel that smoking limitations have no practical significance at their school.

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Both national boards should be delegated more direct responsibility for monitoring smoking bans and for anti-smoking health education. Some of the funds specified in §27 of the *Act on smoking* should be placed at the direct disposal of the two national boards.

At the municipal level, municipal boards of health have neglected their responsibility, prescribed by law, to monitor advertisement and sales bans. These municipal boards are unable to handle these affairs unless the officials specified in the municipal regulations draft stands for them. The main responsibility here rests with municipal officials monitoring health affairs, and naturally also with municipal health centres' chief doctors. The *Act on smoking* further prescribes that the municipal boards should take action on the basis of information reported to them. The general public has been lax in this respect. The extent to which public health and temperance organizations could encourage and prompt a more active approach among the general public to compliance with the *Act on smoking* should be determined.

Although increased efficiency in monitoring the stipulations of the *Act on smoking* requires the action of individuals and organizations, the central administration should distribute guidelines and should make such monitoring part of health officials' daily routine activities. At present, the authorities responsible for the monitoring of the *Act* seem to react to requests for investigations as though they were exceptional requests hindering other official duties. It is thus justified to consider whether consumer authorities would be more suitable for monitoring advertisement and sales bans than the National Board of Health.

The findings of the latest survey have again emphasized the importance of pricing policy in regulating consumption. When the price of tobacco products constantly lags behind the growth in purchasing power, health education and other measures are faced with an almost impossible task. Despite the obligation set out

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A General Survey

As early as 1886 an anti-smoking society was established in Stockholm. It was in more or less continuous action until the 1920's, when activities became more irregular. In 1955 the National Smoking and Health Association was founded, and it has been working continuously since then. In 1964 Swedish smoking control activities were substantially strengthened by governmental grants being established, and these have since then been steadily increasing. The establishment of governmental funding meant two things: 1) The National Board of Health and Welfare could take official responsibility for smoking and health in its role as a health authority. 2) The National Smoking and Health Association (NTS), whose activities were from that time funded by a substantial part of the total government grants, could be transformed into a professional specialized agency for smoking and health. This makes the NTS probably the oldest specialized agency of its kind, being followed in 1965 by the establishment of the American "National Clearinghouse for Smoking and Health" (now the Office on Smoking and Health).

During the years since 1964 the National Board of Health and Welfare and the NTS have been able to

carry out comprehensive action and to involve a great number of other pertinent authorities and organizations. Such bodies, devoting part of their activities to Smoking and Health, are, for example, the National Board of Education, the Swedish Cancer Society, the Swedish Federation of Sports Associations and the Swedish Frisk Sport Association. Further, a specific non-smokers organization, VISIR, was established in 1974 and since 1978 the youth-oriented, preventive efforts have been strengthened by a specific campaign, "A Non-Smoking Generation".

The Swedish programme does primarily consist of a broad variety of target-oriented, educational activities. Further, various treatments for smoking cessation have been developed. There has also been some important legislation on smoking and health. Activities since 1964 seem to have become increasingly successful. As regards the adult population, in previous decades there was an ongoing increase in the percentage of smokers, but this was turned in 1970 into a decrease for males and a levelling-off for females. During the course of the 70's Sweden has been able to register a substantial decrease in teenage smoking.

The cover: CAROLA HÄGGKVIST, Sweden's finalist in the Eurovision Song Contest 1983, supports the idea of A Non-Smoking Generation.

(Photo: Sture Ytterberg)

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**SMOKING
CONTROLS**



**NECESSARY
IN SIGHT**

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When the Tobacco Act was being drafted, the suspicion was voiced that prohibiting sales of tobacco would increase sales among adolescents. This possibility is investigated with the help of a question concerning purchases of tobacco from friends. In February 1987 only a few 12-year-olds reported having bought tobacco from friends, and among 14-year-olds the percentage was clearly lower (4%) than purchases from kiosks or shops. The number purchasing tobacco from friends rose slightly from 1977 to 1979 but has since remained on a similar level.

3.1.5. SMOKING AMONG PARENTS

The survey included a question on parents' smoking in 1977-81 and 1987.

About 36% of fathers and 21% of mothers now smoke according to the results of the latest survey (excluding the options "no father or mother" and "cannot say"). Since 1977 smoking among fathers has declined, but an increasing percentage of mothers now smoke (diagram 5).

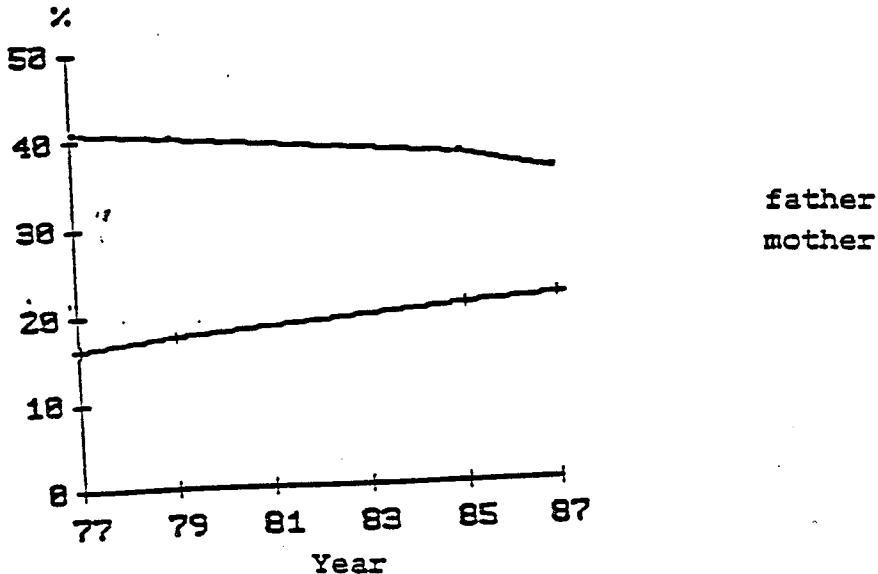
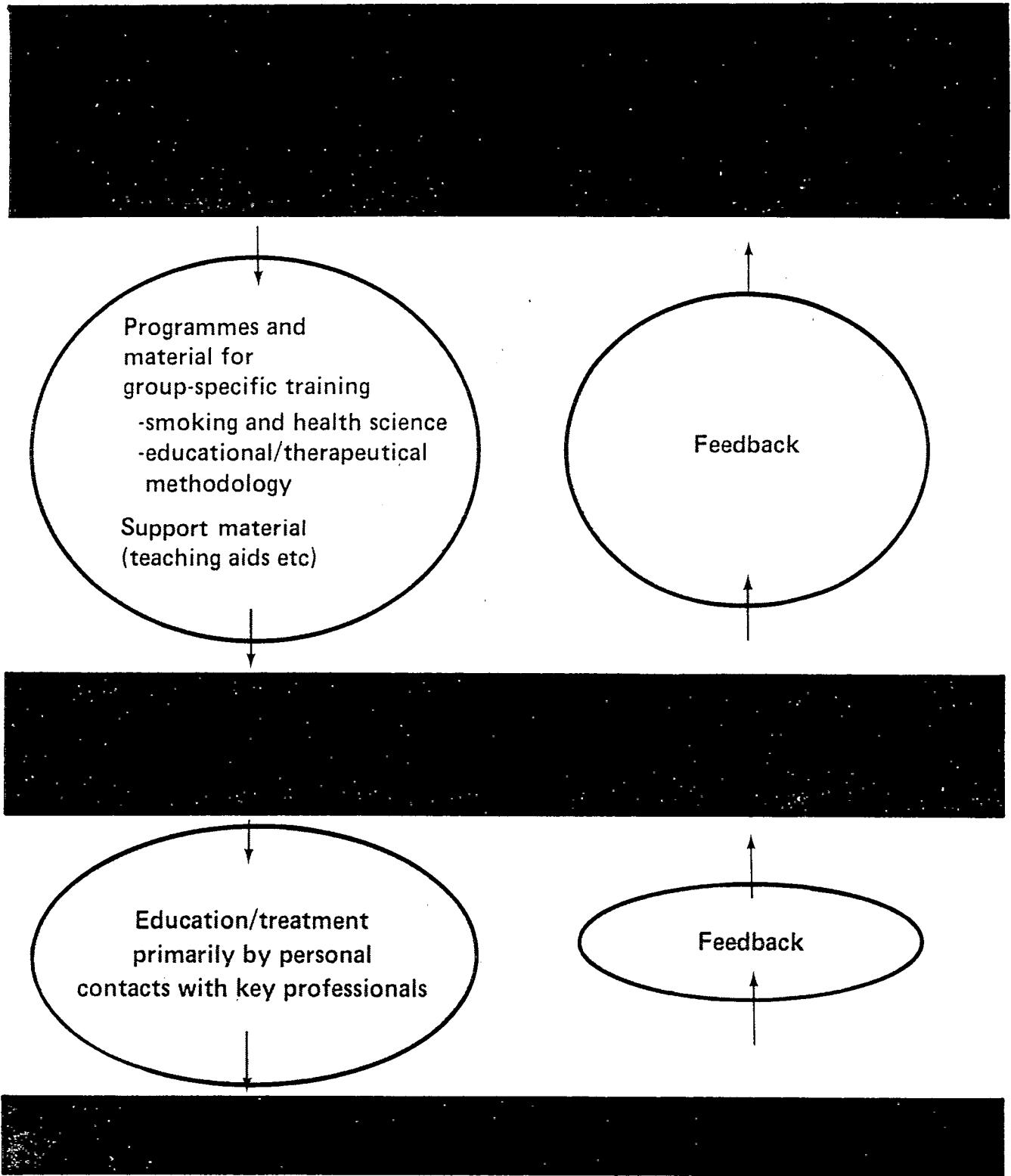


Diagram 5. Percentage of fathers and mothers of 12- to 18-year-olds who smoke according to adolescents' response by survey year.

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Some basic features of action for smoking control in Sweden.

Specialized treatment

Large-scale cessation-oriented action would predominantly consist of educational and counselling activities incorporated in the daily work of health professionals. In some cases, however, specific treatment procedures could be added. Some such procedures can be used at any doctor's surgery. This

could be said of the use of certain medications such as nicotine chewing-gum. Other more complex procedures can only be used at particular smoking cessation clinics. In Sweden there are such clinics at eight hospitals.

ing figure among girls was 9%. In this respect Finnish adolescents clearly diverge from the picture in many other countries. In most other countries girls smoke more than boys at puberty (see Aaro et al 1986).

The most alarming thing about the spread of smoking among adolescents is that the change has been greatest among girls aged 16 to 18. Presently 32% of these girls smoke daily, while the corresponding figure during the period 1979-85 was 23-26%. In February 1987 daily smoking among girls was even more widespread than before the Tobacco Act came into force in 1977 (30%). The increase of smoking among 18-year-old girls (appendix tables 4-5) preindicates an increase in smoking among women.

Daily smoking among boys has also increased in the older age groups. Daily smokers now made up 32% of 16-year-olds, whereas the figure in 1979-85 was 25-30%. Among 18-year-olds daily smokers amounted to 37%, compared with 32-36% in the four previous surveys.

The daily consumption of cigarettes has also risen. In February 1987 among daily smokers about 61% of 18-year-old girls and 83% of boys smoked over 9 cigarettes a day. The corresponding figures were 44% and 81% in 1983 and 43% and 73% in 1977.

3.1.2. THE USE OF SNUFF

The use of snuff has spread among adolescents in Sweden, partly replacing cigarette smoking. Attention has also been drawn to the spread of snuff consumption in Finland, particularly among athletes (Kannas et al 1987). The 1981, 1983 and 1987 surveys included questions on experimentation with and the use of snuff (appendix tables 15-16).

Experimentation with snuff has clearly increased in the 1980s. In February 1987 slightly less than one-third of boys aged 16 to 18 and one-tenth of girls of this age reported having tried snuff. The percentages of those using snuff occasionally or more often had increased by 1.5 times since 1981 but were

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Sweden's Programme to Eliminate Smoking - Activities and Success to Date

by Lars M Ramström, Ph D
Director General, NTS, Stockholm

The start and further development of the programme

The modern history of smoking control in Sweden began in 1963, when a group of twenty-five prominent scientists sent a petition to the government urging regular government funding of information and education on smoking and health. The petitioners were successful inasmuch as that from the fiscal year 1963/64 the Swedish governmental budget has included a grant for funding such action. These funds have been used partly for activities carried out by the National Board of Health and Welfare, partly as a contribution to the National Smoking and Health Association, NTS. This organization could thus as early as 1964 establish a secretariat with fulltime staff. This meant that Sweden acquired, perhaps as the first country in the world, a specialized agency for smoking and health serving as a focal point for all kinds of questions regarding smoking and health. The NTS is primarily a private organization but it operates mainly with government funds and works in every respect in close co-operation with the National Board of Health and Welfare. This means that the NTS should rather be described as a para-governmental body with a specific responsibility to serve as the national agency for documentation and information in the field of smoking and health. It should further be mentioned that in September 1978 the World Health Organization, WHO, designated the NTS a WHO

Collaborating Centre for Reference on Smoking and Health.

The funds available from 1964 were not large enough to establish a very comprehensive sort of action, but they made it possible to make meaningful efforts in certain sectors that were given priority. At first the highest priority was given to smoking among schoolchildren. Therefore one of the first large projects of the NTS was to construct a "Tobacco Teaching Set" that was distributed to all Swedish comprehensive schools in 1965.

At the same time as the above activities for smoking control were becoming well established it became increasingly apparent that a more comprehensive programme would be needed. This would mean that more governmental funds would be needed, but such a thing would be unrealistic unless a good analysis of the needs as well as good general plans could be presented. These considerations led to the conclusion that it would be desirable for an official committee to be created to do this preparatory work.

Such a committee was created in 1971 and it delivered a report in 1973. Based on the suggestions in this report, the programme was expanded in the middle of the 1970's and a further expansion was prepared by another committee, which delivered its report in 1981.

Programme objectives and general principles

The programme design ideas outlined in these reports and adopted in the practical implementation work are centred around an analysis of the major objectives of the national programme.

The first objective deals with preventing the onset of smoking in young people.

The second objective deals with influencing smokers to change their habit.

The third objective deals with creating favourable opinion in the population so as to support the programme activities.

All these objectives can be served by education and

information activities and to some extent also by legislation. The objective of influencing the smoking behaviour of current smokers could also be served by specialized treatment procedures.

It is considered a general principle that the programme as a whole should have a long-term and a multi-component nature. No single activity should be expected to generate an over-all effect, while at the same time every single activity should be contributing to the strength of the programme as a whole. All activities should as far as possible be mutually supporting parts of the programme.

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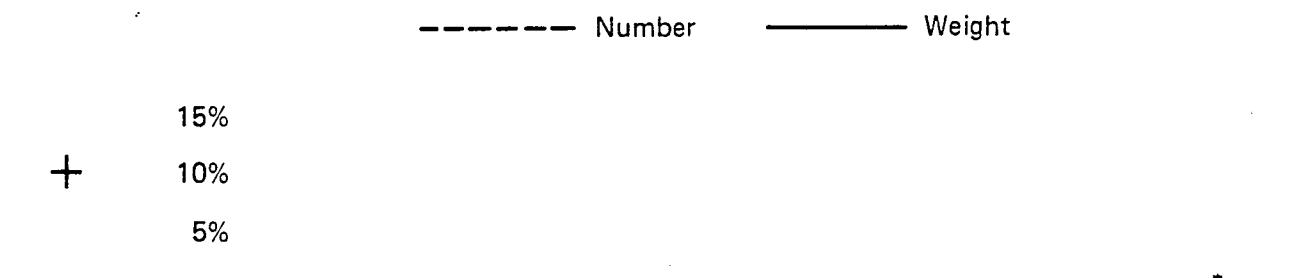
panded use of other than traditional educational techniques is also needed, and a generally increased proportion of person-to-person type communication in the total field of educational activities. The committee also discusses organizational questions and suggests a further elaborated version of the existing system. This means that educational and cessation promoting activities would be carried out by a variety of collaborators in a manifold network of agencies found among ordinary societal functions such as the school system, the health services, work places, organizational civic life etc. Thereby this multitude of activities would penetrate far enough in society to reach the great majority of the population.

Although maintaining very strictly its emphasis on education, the committee suggests a few legislative measures to add strength to the total programme; inter alia a new tobacco advertising act that would

stiffen up the existing partial ban on tobacco advertising to ban also advertisements in newspapers and magazines. It is further being suggested that the taxation of tobacco should consciously be regarded as a vehicle for health-oriented policies. In consequence, prices of tobacco products would have at least to keep pace with general inflation. If the strengthening of resources at governmental, regional and local levels proposed by the committee are made, one may confidently hope that Sweden will achieve the goal stated by the committee, that is, that tobacco consumption should decrease totally.

- so that in 1990 at the latest no more than 30 % of the adult population will use any kind of tobacco regularly,
- and so that no later than the year 2000 a maximum of 15 % of the adult population will regularly use any kind of tobacco.

CIGARETTE SALES IN SWEDEN 1976 - 1982



	1976	1977	1978	1979	1980	1981	1982
Millions	11.988	11.357	11.727	11.973	11.909	11.483	12.062
Tons	9.163	8.701	8.321	8.463	8.303	7.911	8.326

»Cigarette sales in Sweden were up 5% to 12.1 billion cigarettes in 1982. This increase was largely due to increased inventory purchases before year-end, in anticipation of the scheduled increase in the tobacco excise. Certain quantities of cigarettes were also sold in the trade at the Norwegian border, which increased during the year. The increase in actual domestic consumption is estimated to be about 1%.«

(The Swedish Tobacco Company, Annual Report 1982)

Source: <https://www.industrydocuments.ucsf.edu/docs/hphl0000>

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prescribed to appear on packages. Violation of this law should be treated as a violation of the (general) marketing law. From a technical viewpoint this connection has vast implications in that it sets in action a whole specific system of surveillance. One part of this is that the details of the law should be determined by the National Board of Consumer Affairs, which does for that reason issue specific regulations or, rather, guidelines. If these rules are violated, the National Board of Consumer Affairs will begin by making contact with the companies in question, urging them to stop the inappropriate activities. If this does not work, a case can be brought before the specific marketing court which has the power to fine the company quite large sums. In practice the above-mentioned rules mean that advertising of tobacco products is permitted only in newspapers and certain periodicals, not in publi-

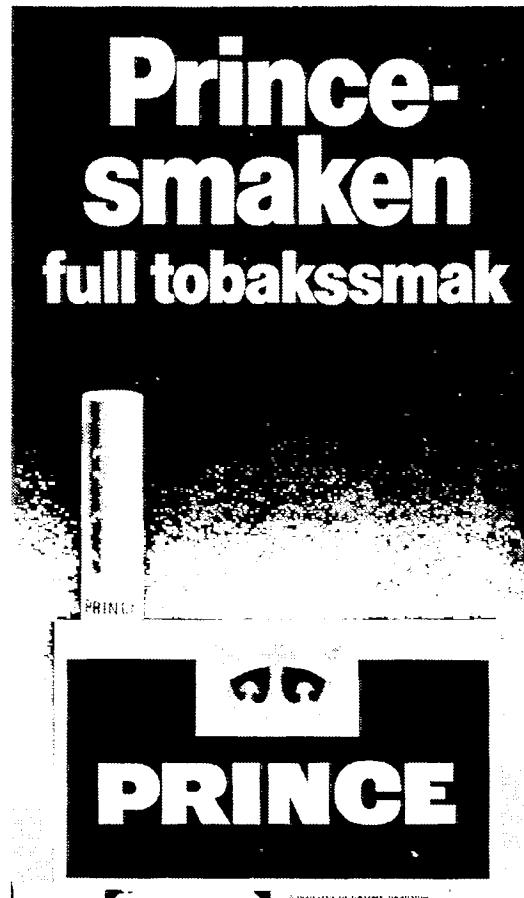
cations principally directed at people under twenty, nor on the sports pages of daily newspapers, nor in sports newspapers. (There is no commercial advertising on Swedish radio or television.) The advertisements are restricted in size. Direct mail advertising, outdoor advertising, advertising in public places and advertising films are prohibited.

No advertisements for tobacco may appear in hospitals, in other health establishments or in places principally intended for or frequented by young people. Both the pictorial material and the text of the advertisement are restricted. Thus no human figures or beautiful scenery may be shown, only a single pack on a plain background. Marketing by means of free samples, trading stamps or combination offers of tobacco products with other products is prohibited.

Possible further development

Although the current law represents a strong partial ban, the agencies dealing with smoking control would prefer a sharpening of the law to prescribe a total ban on tobacco advertisements. Such a pro-

posal was included in the comprehensive programme submitted in April 1981 by the governmental tobacco committee.



Swedish cigarette advertisements:

Left: from the 1950's and 60's.

Right: today.

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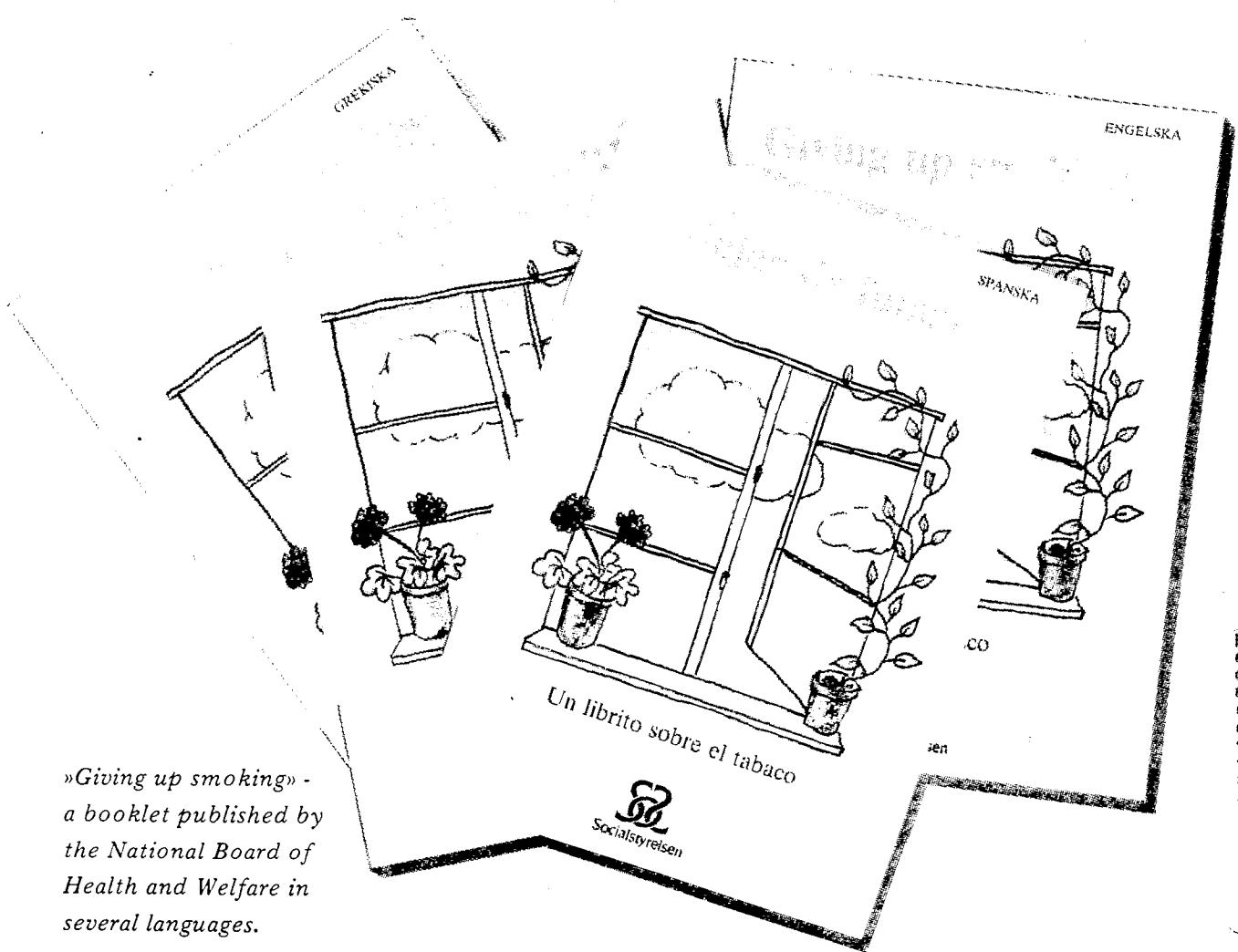
Education and information

Programme activities that have to reach millions of people cannot work without the involvement of numerous collaborators at a local level. Therefore the basic implementation technique in Sweden has been to involve such professionals, for example health workers, teachers, leaders of civic organizations etc, that do in their daily work have contacts with people in which they can incorporate smoking control efforts as part of their ordinary work. But such a system cannot work unless all these key people are given assistance by the central leadership of the national programme. Therefore the following tasks have been important for the central agencies, the National Board of Health and Welfare and the National Smoking and Health Association, NTS: to develop methodologies for local work by various categories, to organize training courses for the people in question, and to provide teaching aids and similar material. This enables these key people to perform smoking control tasks as incorporated parts of their daily work. Specific manuals have been worked out and distributed to a number of groups, e g teachers in the comprehensive school system and medical personnel at maternity health

centres and primary health care units. This kind of work is continuously going on to cover an increasing number of categories.

While many major tasks require such personalized efforts as described above, a good deal of information can be given by mass media, both at a local and at a national level. Therefore, mass media activities have been an integral part of the total efforts as well.

With reference to the dominant role of education in the Swedish programme it should be pointed out that there have been special efforts to make the educational activities really comprehensive. As far as message content is concerned this means that traditional, medically oriented matters are amply supplemented by matters in everyday psychology, environmental protection, economy etc. Also in terms of shape of message there has been an ambition to find new paths. Thereby one important feature consists of the efforts to adopt as far as possible a "positive" approach, i e first of all emphasizing the favourable aspects of non-smoking rather than relying on fear-arousal.



Preventing the Onset of Smoking

by Paul Nordgren, M A
Information Officer, NTS, Stockholm

Smoke-free start of life

The Swedish way of combatting smoking is the way of information and education.

Information and education activities to prevent the onset of smoking start already before a baby is born. We all know that the smoking habits of children are dependent on the smoking habits of their parents. We are therefore concerned with the baby's start of life and how this can be made smoke-free. An example: A programme for the smoke-free start of life was launched in 1976 with one-day training courses being given to all working midwives in the province of Stockholm.

A compendium of educational material was compiled for use in midwife training courses. A year later material was produced to help midwives when counselling and giving instructions. A poster entitled "Please ask us about smoking" is now to be found in waiting-rooms, while in examination rooms midwives have a teaching poster with the heading

"Important facts to remember when pregnant". A special folder is intended to be handed to the mother at a later date. It is important that it be handed to her only after she has received verbal instructions from the midwife and the two of them have discussed the subject. The folder is entitled "Smoking when pregnant" and is mainly a repetition of the points made on the teaching poster and by the midwife. A fourth aid is a diary for a person giving up smoking. These four items together with the special training given to midwives and the compendium comprise the programme in its entirety. It should be emphasized that the important feature is the verbal instruction and the support given by the midwives. The midwives attitude is one of helpful care and not of being fanatically against smoking, which would risk arousing guilt feelings in the mothers-to-be. Active support in giving up smoking is available for those pregnant women who wish to stop smoking.

Teaching on smoking in Swedish schools

This kind of education activity should of course continue as children grow up. And most of the work has of course to be done in our schools. In Sweden the teens are the most usual age at which to start smoking. Today it seems likely that most smokers start smoking at the age of 13 - 15. Thus the target group for measures to prevent the onset of smoking consists primarily of schoolchildren.

Teaching in Swedish schools is governed to a large extent by the content of the curricula, which are drawn up by the government authorities. The education authorities have made very great efforts to bring the ideas of the curriculum to the teacher in the class-room, e g by producing special in-service training material on teaching about alcohol, drugs and smoking. Perhaps the principal effect of the curriculum has been the establishment of a standard for educational publishers. As every teacher knows, the content of teaching materials generally has a much more direct effect on teaching than the discussions of principle in the curriculum.

Smoking has been incorporated among the topics that are dealt with in the regular in-service training programmes for teachers. Here the teachers are given both facts and aids. Without having learnt the facts, teachers will still be unable to use good aids properly. And, correspondingly, without aids even a knowledgeable teacher will find the teaching task so

tiresome that he does not make the best possible of it.

The kind of teacher training that has been described here, is continuously on-going in Sweden, and many teachers have been involved, to some extent, during the last fifteen years. In some regions there have been special, temporary projects offering higher than average number of occasions for teachers to participate in training courses etc, during a certain period.

During the last ten years there has been a great intensification in the teaching on smoking in Swedish schools. Even at the junior level, i e 7 - 9 years of age, most Swedish pupils come across some simple statistics on smoking.

At this stage the content of the teaching is governed to large extent by the pupils' spontaneous questions, but many teaching materials for the junior level deal with smoking in relatively great detail. Many educational publishers and bodies dealing with information on smoking, e g the National Smoking and Health Association and the Swedish Cancer Society, have also produced special information material on smoking for the junior level.

At the middle level, 10 - 13 years of age, teaching on smoking occurs in most cases in grade 5 and to an even greater extent in grade 6. This is related to the fact that the human body and its functions are

TOBACCO CONTROL in SWEDEN

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**The National Board
of Health and Welfare**

Editor: Barbara Fleetwood, Medicin + Miljöinformation, Stockholm
Art Director: Ulrich Hoffmann, Stockholm
Type-Setting: Ateljé Ove Landgraff, Stockholm
Printing: Spångbergs Tryckerier AB, Stockholm 1987



The National Board of Health and Welfare

In Sweden the central authority concerned with smoking and health is the National Board of Health and Welfare. Within the Board the Division of Health Education is responsible for implementation. The Board is responsible at the national level for supervision, planning, co-ordination and follow-up action in the social and health care services. A principal task is to provide knowledge of health hazards involved in tobacco-smoking and other aspects of life-style, to make risk assessments, and

to propose, initiate and carry out various measures for the prevention of illness and promotion of health. Such measures can take the form of recommendations or legislation, to develop methods for health education and to disseminate information.

A present assignment given by the Swedish government is to get the smoking issue included in the education of various professional groups within the health service sector.

For further information:

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Phone 08-14 06 00

NTS

**National
Smoking and Health
Association**

Address: Wenner-Gren Center, 22nd floor, S-113 46 STOCKHOLM Phone: 08-34 24 20

The NTS, the National Smoking and Health Association in Sweden is in its organizational structure a membership organization comprising 1) national organizations whose fields of interest (health, sport, the environment etc) include smoking-related aspects, and 2) individual members.

The working situation of the NTS is that of a governmentally funded national institution serving as a specialized professional agency for smoking and health in Sweden. Working in close collaboration with the National Board of Health and Welfare, the responsible government agency, the NTS maintains a documentation and information centre which contains as its core the NTS scientific library. Besides the task of providing general information for relevant users such as authorities, organizations, institutions, the media and the public at large, a major part of the activities of the NTS is centred around specific smoking control programmes. NTS staff members, in collaboration with national, regional and local bodies, design and e-

valuate model programmes for dealing with smoking and health questions in various environments such as schools, the maternity health care service, work places etc. When the programmes have been designed, the NTS takes an active part in programme delivery not only through activities of its own but also by initiating local action and assisting local bodies, for example in training pertinent professional key-groups such as teachers and members of the medical profession. One part of these activities consists in the production of informational and educational material of various kinds, printed and audiovisual material and demonstration kits. While part of the production is done on a project-related, ad hoc basis, the NTS also issues two periodical publications, a quarterly journal, "Tobaken och Vi" (Tobacco and Ourselves) and a news bulletin.

The NTS serves also as a World Health Organization (WHO) Collaborating Centre for Reference on Smoking and Health.

**Published by the Swedish National Smoking and Health Association
with financial support from the National Board of Health and Welfare**

Editor: Paul Nordgren

Design: Greger Åkesson **Printing: Nordisk Bokindustri AB**

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gramme does not include separate objectives for adolescents either.

As the above references show, the goal of decreasing smoking among adolescents has received relatively little attention in official documents concerning health education and health promotion since the beginning of the 1980s. Since objectives have not been achieved, they have quietly been ignored. For example the Health for All by the Year 2000 programme briefly notes the negative development of smoking among adolescents but does not discuss the significance of this observation. In this respect the situation is substantially different in many other countries. In Sweden, Norway and Canada, for example, health officials have constantly regarded smoking among adolescents as one of the most important health problems and the idea of a non-smoking generation has received a clear position in health policy plans.

:

The latest data on smoking among adolescents confirm that Finland has failed in the prevention of smoking and the raising of a non-smoking generation:

- Smoking among adolescents has clearly become more widespread since 1985 and now is on the same level as in 1977, when the Tobacco Act came into force.
X
- Daily cigarette consumption has increased among 14- to 18-year-olds and the percentage smoking over 9 cigarettes a day is approaching the level at the beginning of the 1970s.
X
- Smoking has increased particularly clearly among 16- to 18-year-old girls.
X
- Experimentation with snuff has also spread in the 1980s, though daily use of snuff is still rare among adolescents.
~~Experimentation with snuff has also spread in the 1980s, though daily use of snuff is still rare among adolescents.~~
- According to 14-year-olds' own evaluation, school smoking limitations and the monitoring of these limitations have grown slacker since the beginning of the 1980s.

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3.1.6. DISCUSSION

One special goal of the health-oriented tobacco policy has been to prevent smoking among adolescents. In 1977-79 it was in fact possible to report a clear decrease in smoking (Rimpelä and Eskola 1977, Rimpelä 1980). Favourable experience supported the belief that a non-smoking generation of adolescents was growing up in Finland. The Tobacco Policy Working Party appointed by the Ministry of Social Affairs and Health (1980,19) proposed a plan of action which it was predicted would substantially decrease smoking among adolescents. Table 2 presents the objectives laid down by the working party for 1985 and the actual situation in 1987.

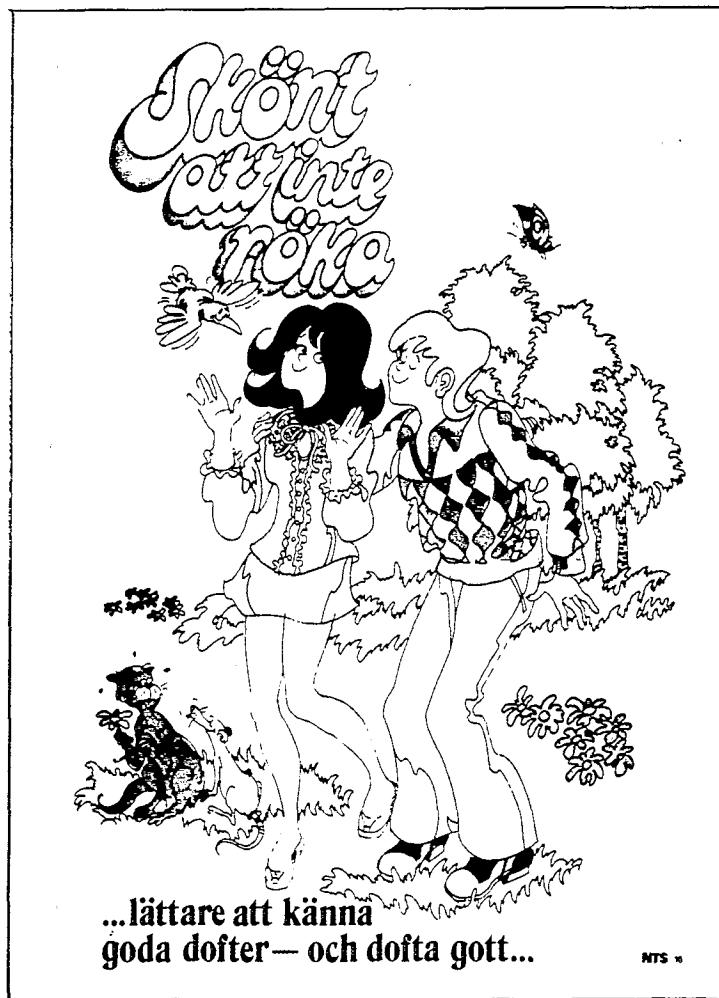
Table 2. Percentage smoking daily according to the Tobacco Policy Working Party's objective for 1985 and the actual situation in 1987.

Age	Tobacco Policy Working Party's objective for 1985	Actual situation in 1987
14	3%	13%
16	18%	30%
18	22%	36%

The Health Education Development Plan for the years 1984-88 (1983,38-39) states that total consumption of tobacco products has declined somewhat, but the goals set by the Tobacco Policy Working Party have not been achieved. The goal set by the development plan was a decrease in total consumption of 3% per year and a decrease in harmful substance exposure of 40% by 1988. No separate objectives were set for adolescents.

The Health for All by the Year 2000 programme (Ministry of Social Affairs and Health 1986,77-79) states that consumption of tobacco products has, practically speaking, remained at the same level since 1977 and that smoking among adolescents appears to have turned upwards in the past few years. The programme sets the general goal of reducing total consumption of tobacco products by the year 2000 to 70% of the level in 1986 and raising the percentage of non-smokers to 80%. This pro-

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»Wonderful not to smoke...
...easier to enjoy good scents -
and to smell good yourself.«

regularly studied in grade 6. But it is also common knowledge that the majority of pupils who start smoking do so in connection with the transition from the middle to the senior level, i e grades 6-7. At the middle level all pupils therefore receive information on the harmful effects of smoking. There is a good supply of various types of teaching material on smoking specially designed for grade 6. In view of the fact that, as previously mentioned, many pupils start smoking at this age, teaching on smoking at the senior level is often included as early as grade 7. Teenage health issues, in which smoking has an obvious place, are discussed in this grade. In grade 9 as well, teaching on smoking is included in connection with the discussion of the human body. At the senior level, i e 14 - 16 years of age, where teaching is divided into subjects to a greater extent than at the junior and middle levels, an effort is made to distribute information over as many subjects as possible, so that various aspects of smoking can be discussed. Teaching on smoking has an obvious place in many subjects.

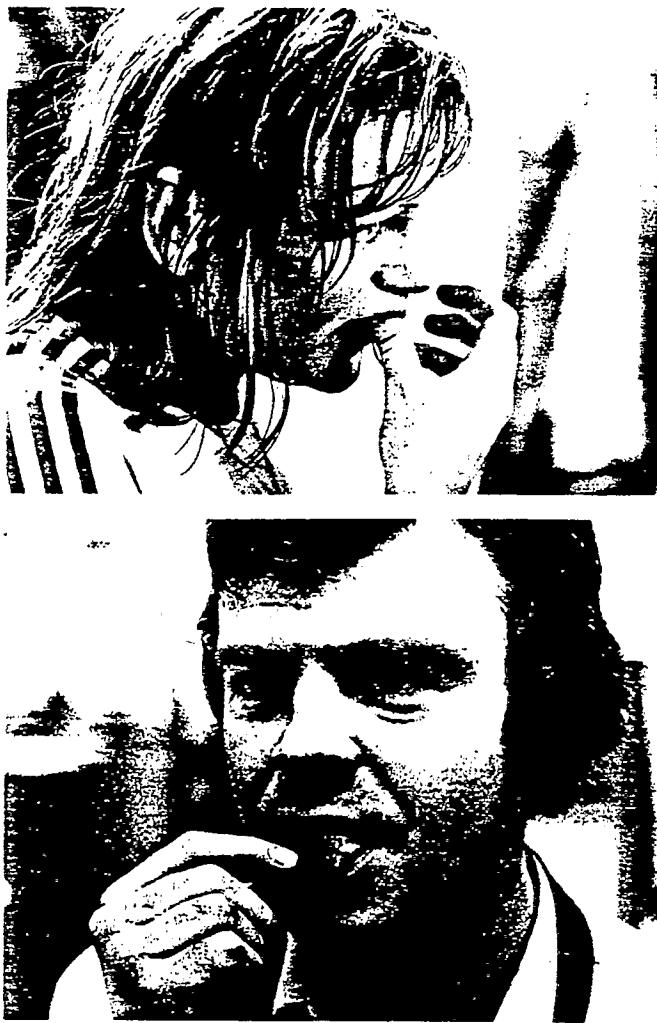
Everyday teaching and the ordinary work of the teacher form the basis of anti-smoking activity in Swedish schools. This does not, of course, exclude

the organization of special anti-smoking campaigns and days as well. Outside experts, e g advisors from the NTS, may also take part in school work as a complement to the teacher's work. Such special campaigns are particularly common in grades 6 and 7.

At the junior and middle levels pupils are forbidden to smoke in the school grounds. At the senior level the situation varies from school to school. Sometimes smoking is prohibited, sometimes it is allowed within a particular area of the playground. But even where pupils are allowed to smoke an attempt is made in various ways to create conditions which may help them to give up smoking.

At the junior and middle levels habitual smoking is practically only found in pupils who also have other problems. In other words they are almost automatically the object of efforts by the school nurse, psychologist or welfare officer. But the school welfare staff is involved in helping pupils with smoking problems at the senior level as well, and it often plays an active part in the anti-smoking activities carried on in some schools. In Stockholm, for example, group anti-smoking treatment has been in progress for a couple of years.

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Snuff-taking is still a rare habit among women.



The habit of taking snuff orally is dramatically increasing among young people in Sweden.

A governmental commission

... prevent young people from starting to smoke

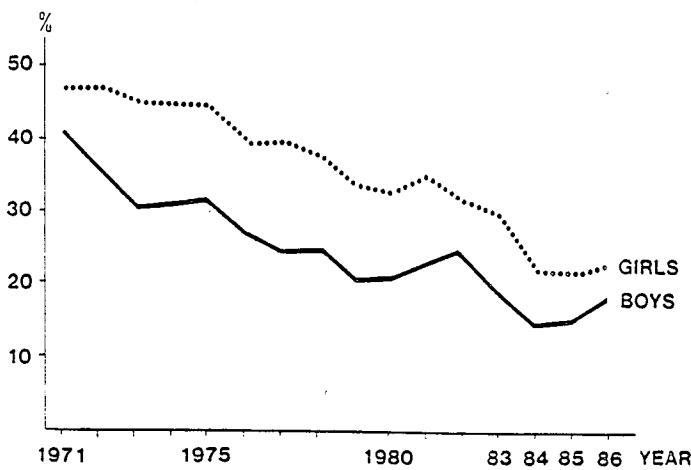
Since 1964 the work against tobacco use among young people has been supported by governmental means. At that time the first grant was given to information activities about the harmful effects of tobacco use with the objective of preventing young people from starting to smoke.

The main target group for the anti-smoking information has been children and young people under the age of 20 years. The activities have mainly been carried out through the schools. Results are reported through regular statistical surveys on smoking habits among schoolchildren. The proportion of boys smoking at the 9th grade (16 years of age) has decreased from 41 percent in 1971 to 18 percent in 1986. Among girls the proportion of smokers was 47 percent in 1971 and only 22 percent 15 years later.

At the same time as smoking has decreased strongly among both sexes the habit of oral snuff-taking

has increased heavily. The consumption of snuff has doubled in 20 years.

PREVALENCE OF TEENAGE SMOKING (AGE 16)
IN SWEDEN 1971 - 1986



Legislation

There is national legislation on the mandatory nature of smoking and health education in schools. Another important piece of legislation is the Tobacco Labelling Act, which became effective at the beginning of 1977. According to this act, all tobacco packages have to carry health warnings. Cigarette packages have to carry declarations of contents as well. These declarations indicate the yield of carbon monoxide, tar and nicotine and, as a comparison, averages for all the brands on the Swedish market. Health warnings on cigarette packets are varied, so that at each point in time there is a set of sixteen warnings appearing in rotation.

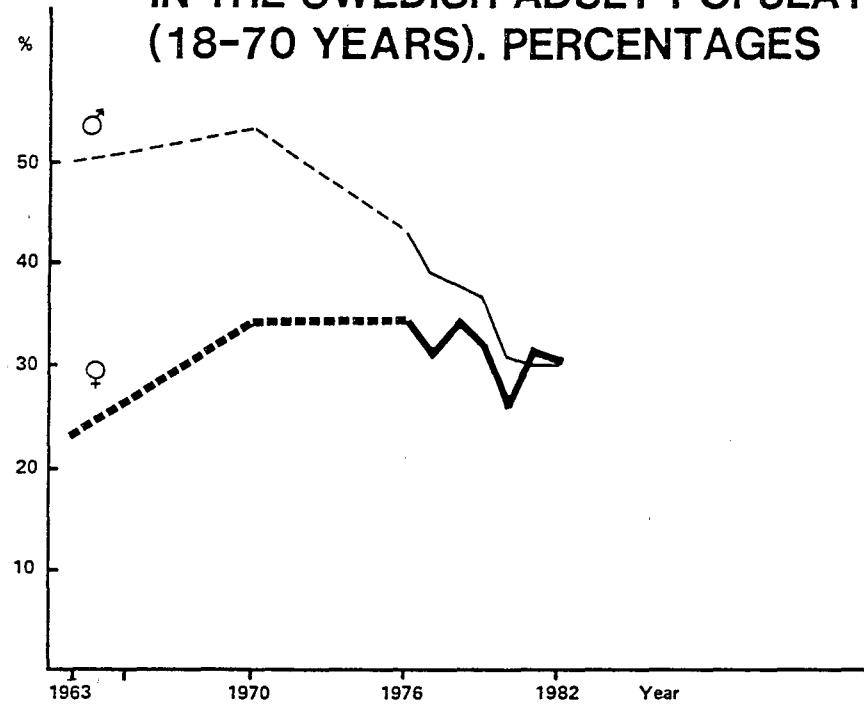
From 1979 onwards there has been a specific act regulating tobacco advertising. According to this act there is a total prohibition of outdoor advertising and of advertisement in certain printed media directed at young people. In ordinary newspapers advertisements for tobacco products are restricted in size, and there can be no other picture than a single package shown against a neutral background. The text of the advertisements should be confined to factual information on the product, and each advertisement should reproduce a health warning and, when cigarettes are advertised, a declaration of contents.

Results

The activities that started during the 60's appear to have had a substantial impact. In adults the male smoking rates have continuously gone down since 1970. From that point in time the female rates have no longer been rising and in recent years there has been the start of a downward trend for females as well. Even more promising is the downward trend in adolescents, which has been seen ever since the beginning of the 1970's. From 1978 on there has also

been a downward trend in male lung cancer rates, which appears to result from the turn in the development of smoking habits at the beginning of the decade. In summary, the Swedish experience indicates that a comprehensive long-term smoking control programme can yield profits in terms of lower smoking rates and subsequently decreasing rates of certain smoking-related diseases.

PREVALENCE OF DAILY SMOKING IN THE SWEDISH ADULT POPULATION (18-70 YEARS). PERCENTAGES



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Another category of measures within this general programme are activities directed at adults. These measures are selective and directed to certain strategic or opinion-leading groups and locations.

A great deal of attention has been paid to the Swedish Tobacco Control Programme as well nationally as internationally. The smoking problem has medical, psychological, sociological, economical and marketing aspects. The planned measures concern all these aspects. The Tobacco Control Programme from 1972-73 was extended in 1977 and further activities were introduced by a new committee in 1981, in a report called "Decreased tobacco use".

General programme objectives

The major objectives of the National Swedish Programme against tobacco use are the following:

1. To prevent young people from starting to use tobacco.
2. To influence smokers to stop smoking.
3. To create a positive public opinion regarding the programme activities.

These objectives are on their way to being achieved through education, information and legislation. Smokers are offered special treatment at smoking cessation clinics and special remedies like for example nicotine chewing-gum.

Integrated activities

It is most important that all activities against the use of tobacco are integrated and thus, the National Board of Health and Welfare and the National Smoking and Health Association have been co-operating since 1964 with various authorities and organizations. Important bodies working with the anti-smoking issue are the National Board of Education, the National Board of Occupational Safety and Health, the Swedish Cancer Society, VISIR - a specific non-smokers organization, the Smoke-Free Youth Association, the youth oriented organization "A Smoke-Free Generation", the Swedish Federation of Sports Associations, the Swedish Frisk Sport Association and "Korpen" (the Corporation Sports Organization).

The Swedish activities are strongly target-oriented on an educational basis. The Swedish programme has been successful in its anti-smoking work. The on-going trend is positive as public opinion in a growing extent appreciate a non-smoking environment.

Governmental support

- Despite a decline in tobacco consumption in Sweden, smoking is still the largest individual cause of cancer in our country, says Gertrud Sigurdsen, Minister of Health and Social Affairs.

- Surveys in Stockholm have shown a decrease in cardiovascular diseases among men belonging to age groups in which the amount of smoking individuals have been reduced. Thus, a direct relation.

- Unfortunately, smoking among women has not decreased at the same rate as among men. This is an alarming fact, and we need to continue working with information campaigns in order to on one hand reach women, on the other hand to prevent the onset of smoking among young people. It is also very important that marketing of tobacco products be limited as far as possible through a more stringent interpretation of existing legislation.



Gertrud Sigurdsen, The Minister of Health and Social Affairs, strongly supports the tobacco and health issue.

- Despite the prohibition in the Tobacco Act, 12- to 14-year-olds commonly buy tobacco from kiosks and even from shops.

The same problems have apparently been encountered in reducing smoking among adolescents as in programmes to prevent communicable diseases. When programmes have been considered effective and adequate to achieve objectives, attention and funds have been shifted to other health problems and suddenly previously defeated diseases have once again begun to spread. The latest example is the recent outbreak of polio in Finland.

The development of smoking among girls most clearly demonstrates the changing situation. Women's smoking never spread and became established in Finnish culture as it did in many other industrialized countries. In the mid 1970s the opinion climate became anti-smoking and the spread of smoking among women came to a halt. As was noted above smoking declined rapidly among girls.

In the 1980s smoking has no longer been viewed as such a central problem as before. The themes of health education have become more general, and smoking has practically vanished from public discussion. The considerable rise in smoking among girls in the mid 1980s can be compared with the polio epidemic after the slackening of prevention efforts. Young people's own opinion of school smoking limitations clearly demonstrate a setback in efforts to reduce smoking.

Stimuli tending to increase smoking have been lurking underneath the surface and have now received a new hold. The health-oriented tobacco policy of the past decade did not succeed in permanently changing Finnish culture but only delayed the spread of smoking among women.

Formerly the prevention of experimentation with tobacco was considered the most important question in the area of smoking among adolescents. It was assumed that if experimentation was postponed to an older age, adolescents would be sufficiently mature to choose the non-smoking alternative. The increase in

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The Snuff problem

NTS

The National Smoking and Health Association

The National Smoking and Health Association - NTS - works with health prevention and protection on all matters connected with tobacco use. NTS is a specialized professional agency informing about tobacco and health in Sweden and is mainly financed through governmental support. NTS is one of the few associations in the world serving as a "WHO Collaborating Centre for Reference on Smoking and Health".

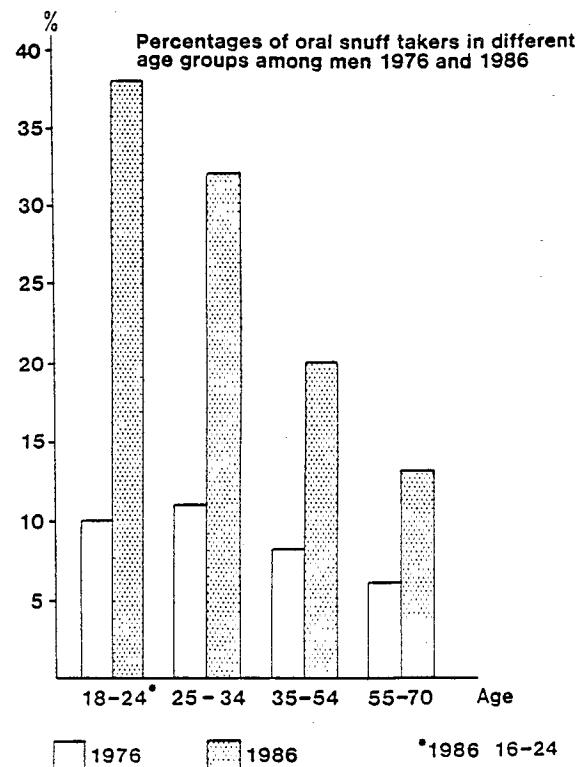
- The main task of the NTS is to collect general information and to publish documentation on tobacco matters to all those who may be interested such as authorities, organizations, institutions, mass media and the public at large, says Lars Ramström, Director General of NTS.
- Education programmes play a very central part in NTS activities. The NTS staff members collaborate with national, regional and local bodies in order to create educational programmes for schools, health-care centres, the maternity health-care service, work places etc.

Sweden in an international perspective

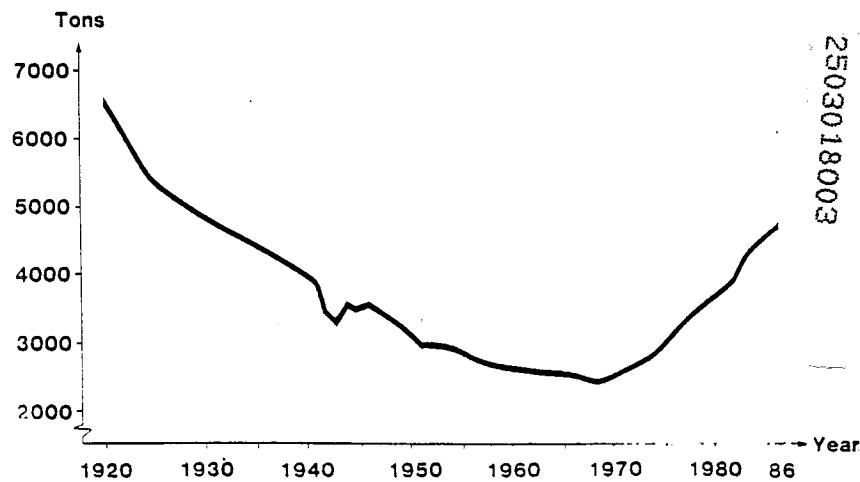
- Sweden is well advanced in an international perspective regarding tobacco and health, claims Lars Ramström, who is continuously involved in international tobacco and health matters.
- Nevertheless, there are still many things to accomplish in Sweden such as the extent, variety and intensity of activities. Sweden is currently involved in the international collaboration regarding tobacco and health. Very few countries can show a declining trend in tobacco use. Sweden, however, has obtained a tangible reduction and has even succeeded in decreasing smoking among young people. The Swedish policy is to emphasize on education and information supported by legislation. Legislation is not specially rigorous compared to other industrial countries.

Sweden has the highest per capita consumption of oral snuff in the world. The habit of taking snuff orally is dramatically increasing among young people in our country, which implies that this issue has to be actively emphasized. Lars Ramström is the only Swedish member in the WHO study group re smokeless tobacco. This group recommends active information on the fact

that also snuff is harmful. Opinion-leaders such as dentists and staff within the health-care sector can have substantial influence on this matter. Furthermore strong regulations on marketing such as increased prices and warning labels are recommended. Some countries have even passed a general ban on the import and selling of smokeless tobacco.



The consumption (sales) of oral snuff in Sweden 1940-1986 (tons)



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Supplementary table 3. Share of non-smokers (%) (experiments of maximum 50 cigarettes). Girls and boys at the age of 12, 14, 16 and 18 yearly.

Age	Sex	1973	1977	1979	1981	1983	1985	1987
12	Boys	..	95.4	94.7	93.8	97.6	96.3	97.0
	Girls	..	96.5	98.0	96.3	97.7	98.6	98.9
14	Boys	..	76.8	80.0	78.5	78.4	78.9	75.2
	Girls	..	76.0	83.9	79.9	80.5	80.4	82.4
16	Boys	..	54.4	58.3	55.3	58.1	59.0	51.6
	Girls	..	59.1	51.0	61.8	62.7	58.9	60.3
18	Boys	..	41.5	45.1	46.6	44.1	49.6	46.7
	Girls	..	47.3	47.9	56.3	55.1	55.1	48.5

Supplementary table 4. Share of girls and boys at the age of 12, 14, 16 and 18 smoking daily (5), per year.

Age	Sex	1973	1977	1979	1981	1983	1985	1987
12	Boys	..	1.4	1.0	2.5	0.9	1.4	1.2
	Girls	..	1.5	0.6	1.2	1.4	0.3	0.3
14	Boys	17.5	11.3	9.4	15.4	14.7	13.2	16.3
	Girls	21.0	14.7	8.8	11.9	12.8	10.4	9.3
16	Boys	39.0	29.5	25.4	29.9	27.2	27.9	32.0
	Girls	32.3	27.1	24.5	25.3	22.9	25.2	28.8
18	Boys	43.9	40.6	33.5	36.0	34.3	32.1	36.7
	Girls	40.4	32.1	25.9	26.1	24.7	24.6	34.8

Supplementary table 5. Share of girls and boys (%) at the age of 12, 14, 16 and 18 smoking more than 9 cigarettes daily, per year

Age	Sex	1973	1977	1979	1981	1983	1985	1987
12	Boys	..	0.3	0.2	0.4	0.0	0.3	0.5
	Girls	..	0.6	0.0	0.0	0.2	0.3	0.0
14	Boys	5.2	2.9	2.5	4.3	4.7	4.8	7.8
	Girls	6.8	2.7	2.6	2.6	4.6	3.5	3.0
16	Boys	24.1	15.0	13.3	17.2	18.1	18.4	19.4
	Girls	13.0	9.5	9.2	7.9	9.8	14.5	11.1
18	Boys	33.9	29.7	24.3	29.0	25.0	24.8	30.6
	Girls	18.6	13.9	11.9	11.6	13.4	14.9	21.1

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Swedish Smokers Are in Favour of Non-Smoking Rules

In recent years there has been a lively discussion in Sweden about whether or not to introduce rules against smoking in indoor public places. A crucial question has been whether public opinion would be favourable or unfavourable towards such rules. In order to find out the real situation the Swedish specialized agency for smoking and health, the National Smoking and Health Association (NTS), made a specific survey at the end of 1980. For each of the nine environments dealt with, there is a definite preference in favour of rules. This comes out most strongly in the case of hospital environments, including both waiting rooms and rooms for social purposes in hospital departments. Almost as strong a preference was shown for post offices, banks and sports halls. A less strong preference for rules was indicated when it came to waiting rooms for transports users, theatre lobbies, canteens and similar areas at places of work. As a general rule women are more strongly in favour of rules than men, although the difference is quite

small. Old people seem to be slightly more in favour of rules than younger people, but here again the difference is quite small.

When we look separately at smokers and non-smokers, we find greater differences — but only for those environments where the preference for rules was least strong. In the case of hospitals and sports environments there is no very appreciable difference between smokers and non-smokers. The difference between groups is a little greater when we compare the extreme groups, heavy smokers versus those who have never smoked. But also among heavy smokers there is a definite majority for the "yes side". This is true of all the environments. The strikingly weak resistance to rules, even among those who would personally prefer the absence of rules, can be interpreted as a readiness by most people, including the majority of heavy smokers, to accept rules and to conform to them. This is a very important observation, since it indicates that non-smoking rules would largely be accepted and obeyed.

National Recommendations on Smoking in Public Places and at Work Places in Sweden

As mentioned above, a special tobacco committee of the Swedish Ministry of Health and Social Affairs in 1981 presented plans for the further development and future form of Swedish efforts to reduce tobacco smoking.

One of the committee's recommendations was a separate law on limitations of smoking in public places, similar to those in Finland. The committee also suggested, as a supplement to the law, that the National Board of Health and Welfare and the National Board of Occupational Safety and Health should issue national recommendations on smoking in work places.

As a consequence of the proposal made by the committee and the fact that the government did not wish for a special "clean air act", the two authorities

were entrusted with the drawing up of recommendations on smoking in work places and all indoor public places. The recommendations were published in April 1983.

The main rule in the recommendations is the following: "No-one should against his will be subjected to discomfort or to health hazards caused by tobacco smoke in public places and work places." In practice this means that smoking should be permitted only in special smoking rooms. The intention of the recommendations is to accommodate both smokers and non-smokers as far as possible although priority has to be given to the rights of the non-smokers. It is of great importance for a proper functioning of the recommendations that they shall be accepted by everyone, and above all by smokers.

Special campaigns

During recent years anti-smoking activities have been carried out by various youth organizations. Several religious, temperance and sports associations have also included information and discussions about smoking and health in their regular work, at courses and conferences etc. Some years ago a special youth organization for non-smoking was formed.

Allow me finally to mention a campaign which has been going on in Sweden for the last three years. It is a specific short-period campaign of a rather novel kind. The basic idea behind this enterprise is to influence the way teenagers look upon smokers and non-smokers. The aim is to advertise the non-smoking lifestyle as the popular, modern, fashionable, right one. This special campaign delivers its message using the same advertising technique as that traditionally used in tobacco advertising — its exact opposite — namely, the linking up of these

attractive characteristics with smokers. This Swedish campaign, which bears the name "A Non-Smoking Generation", consequently makes use of mass media approaches in which non-smoking pop-stars, top-level sportsmen and others are pictured on big outdoor posters, in cinema advertisements etc, making statements about the attractiveness of non-smoking. There have also been televised pop-music concerts in which short messages on the favourable aspects on non-smoking were inserted.

In addition to the mass media approaches, this campaign has also penetrated into the school system in order to get a "close encounter" with the target group individuals. For example, the campaign leaders have organized a nation-wide competition for the best "newspaper" produced by schoolchildren illustrating the benefits of living as a non-smoker.

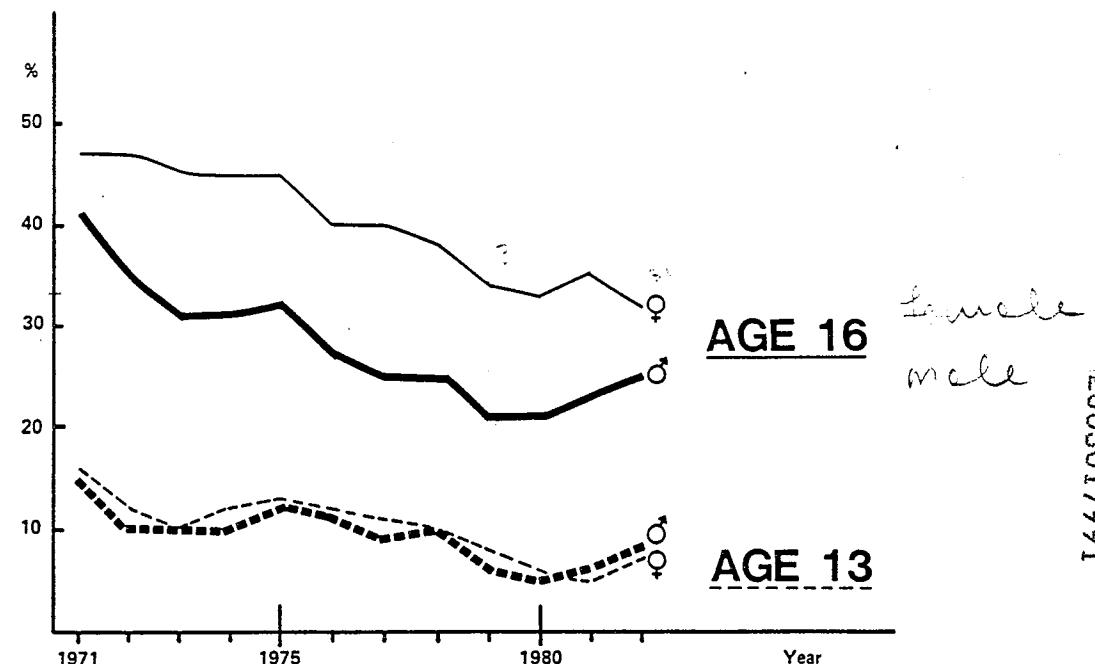
Promising prospects

The statistics on smoking habits among Swedish teenagers show a promising trend towards a decrease in smoking. Obviously this cannot be due solely to teaching in schools etc. During the last few years Sweden has taken several measures to decrease smoking (warning texts and declaration of contents on cigarette packets, restrictions on tobacco advertising, increased information on smoking etc).

The adult population has developed a considerably more negative attitude towards smoking. But we have not undertaken - and are not planning to undertake - any legislation specially aimed at young people, e.g forbidding the sale of tobacco to children.

We still believe mainly in information and education activities.

PREVALENCE OF TEENAGE SMOKING IN SWEDEN



The Swedish Legislation on Tobacco Advertising

Pre-law development

As early as 1964 an intra-industry agreement laid some restrictions upon cigarette advertising in Sweden. This was primarily meant to reduce the impact of advertising on young people. The agreement was sharpened on several occasions during the following ten years. In 1975 there was a double

change. The agreement was sharpened at the same time as it was transformed into an agreement between the industry and the governmental authority dealing with marketing practices, the National Board of Consumer Affairs (in Swedish: Konsumentverket).

The current law

Since voluntary agreements were considered insufficient from a smoking control point of view, Parliament passed a specific act which became effective on the last of July 1979.

The core of this law is the short statement in § 2 that marketing of tobacco products should be

carried out only with particular restraint. Any advertising or other marketing practices must not be "intrusive or proselytizing". It is further stated that whenever advertising in newspapers or magazines takes place, there should be a reproduction of the health warning and declaration of contents



smoking among girls particularly at the age of 16 to 18 and the growth in cigarette consumption among boys calls for a re-evaluation of the problem of smoking. Smoking is no longer moving to younger and younger age groups. Preventing smoking among 12- to 14-year-olds is still an important goal, but older adolescents must be added as a second target group.

It is possible that smoking among older adolescents has been influenced by the increasing supply of so-called light cigarettes. The harmful effects of cigarettes have been identified with tar content, and as this has been lowered the hazards of smoking have been viewed as smaller (see Rimpelä 1986). This question will be investigated more thoroughly in the further analysis of the 1987 data.

In recent years economic welfare has risen in Finland and apparently adolescents' available funds have also increased. According to earlier studies the relation between the price of cigarettes and available funds has a substantial influence on smoking among adolescents. It is likely that adolescents' purchasing power has risen faster than the price of cigarettes, and this has contributed to the increase in smoking.

In recent years the effectiveness of action programmes focusing on individual habits has been discussed in comparison with broader programmes. The development of smoking among adolescents requires the continued improvement of activities focusing on this particular habit in the effort to meet new and broader challenges. Health education and health promotion experts must stop to consider what types of measures can be taken to reduce smoking among adolescents once again. We recommend that the following measures be considered:

1. Funds appropriated to reduce smoking and the staff working for the National Board of Health on the basis of the Tobacco Act should be used primarily to implement the health-oriented tobacco policy. With the decline in the ~~new~~ value of the health hazards of smoking, different communication means should be used to ensure that the population and particularly children's parents are con-

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A nurse's achievements in smoking cessation treatment

The nurses at Tumba integrate smoking cessation questions in their daily work. Their work routines contain four hours of telephone advice for the patients. The rest of the time consists of administrative work and patients coming to the surgery. It has become a routine at this health-care clinic to interview patients about smoking habits when they call about problems that could be smoke related. This method is used for telephone calls and also for personal visits to the clinic. The personal advice to the patients is often completed with written material from e.g. the National Board of Health and Welfare, the NTS, or another organization.

Results

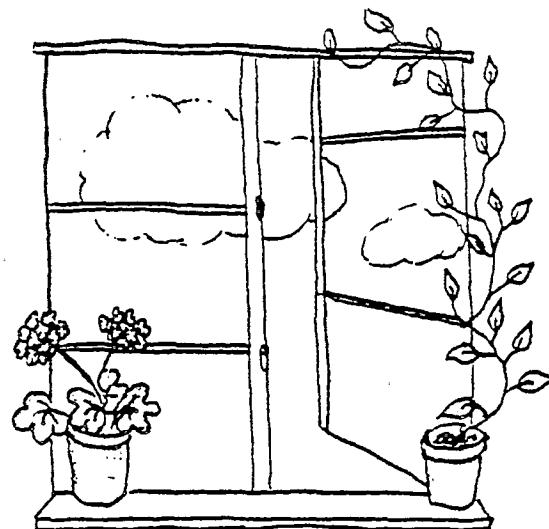
The patients participating in the smoking cessation treatment at the health-care clinic have a close and personal contact with the clinic as they live in the neighbourhood. The positive result of this treatment amounts to approximately 30 percent smoking-free patients a year after the group therapy. But the results from individual therapy are also positive. A person who has decided to stop smoking or already succeeded usually influences friends and colleagues to do the same.

Therapy aids

The anti-smoking activities in Sweden have influenced scientists to find therapy aids for the smoking cessation work. In 1978 the Swedish company Pharmacia Leo Pharmaceuticals was able to launch a nicotine chewing gum—Nicorette—as an aid in the smoking cessation treatment. The idea of the nicotine chewing gum is to prevent withdrawal symptoms that many smokers suffer from when they stop smoking.

The physicians and nurses have through this preparation a tool in their work of helping people to stop smoking. So far 3-5 million people all over the world have stopped smoking with the help of Nicorette. The company behind the nicotine chewing gum is currently co-operating with the medical sector in order steadily to decrease the numbers of smokers. Education and information activities are arranged by the company for physicians, nurses, dentists and others within the nursing sector.

Research continues in order to find new and maybe even better aids for the smoking cessation treatment.



About tobacco



A large range of information material has been published by the National Board of Health and Welfare and other bodies.



Agneta Hjalmarsson, Sahlgrenska Hospital, Gothenburg, is internationally well-known as one of the most experienced Swedish smoking cessation therapists.

Current work and future development

The Swedish cancer committee made the following statement in 1984 "... some kind of general awakening is needed, ... a radical change of attitudes to smoking as a social problem... One has to assume that smoking in a couple of decades practically has ceased. Any other development in a modern society with all existing resources would be a failure".



Paul Nordgren

The Division of Health Education

The Division of Health Education within the National Board of Health and Welfare is responsible for all work concerning tobacco and health. Margaretha Haglund and Paul Nordgren are working in this division on a full-time scale with the tobacco and health issue. Their work is based on education and information with the objective of influencing people to change their lifestyle and refrain from using tobacco.

Basic information

- First of all the work within the Division of Health Education is dedicated to produce basic information about the harmful effects of tobacco, for example in the form of printed documentation.

- Co-operation with other organizations and groups plays an important part. There is a special responsibility for adequate support to the health-care and medical sectors. Projects for the development of methods belong to this work. It means practically that educational conferences and smoking-cessation programmes are held for nursing staff. - It is very important that the issue "Tobacco and Health" is integrated in the daily work among all those involved in health matters. We also try to encourage companies and organizations to take measures in order to prevent smoking, Margaretha Haglund says.
- Another task is to influence authorities to include tobacco and health information in school curricula.

Treatment

The issue of influencing people to stop smoking is included in the education and information programme. The county councils have the main responsibility, but the National Board of Health and Welfare often takes an active part in this work.

- The most important objective for us is to prevent the use of tobacco and to cover trends, general attitudes and legislation. Sweden has few laws concerning smoking, compared to other countries. During the past 15 years the National Board of Health and Welfare has worked with the objective of achieving a general ban on tobacco advertising, Paul Nordgren points out. And the tobacco industry has a fairly aggressive marketing of its products. The present general restrictions are not sufficient.

As concerns the case with smoke-free public places, Margaretha Haglund concludes that people want to have definite rules. If there are no rules conflicts arise more easily.

The Future

"Health for all by the year 2000", WHO announces. Sweden has obtained good results from its actions



Margaretha Haglund

against tobacco use, but a lot more can be achieved. - It is for example difficult to put product control on tobacco in Sweden as anybody has the right to import and sell cigarettes. Furthermore, Swedish people seem to be very tolerant and as individuals not specially interested in the tobacco issue. Other countries have reacted more actively, mentions Margaretha Haglund. We have to activate the tobacco policy. Measures introduced 10 years ago have to be revalued, she continues. - And why can we not introduce a special charge on each cigarette package? Only one öre (100 öres makes one Swedish crown) per sold package would double the amount of money allocated for education and information.

One of the Health information objectives is to inform about the relations between social conditions and health. The Swedish programme regarding tobacco and health has had a positive development but further improvements could be made such as

- A general ban on advertising.
- An active price policy.
- Improved resources regarding education and information.
- An Act on smoke-free public places.

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Health care activities

The whole health-care sector is made aware of the harmful effects smoking has on health. Physicians and nurses are trained in anti-smoking treatment, six regional hospitals have anti-smoking clinics, health-care clinics for out-patients work with special smoking cessation programmes for their patients, hospitals are made smoke-free with some exceptions. There are still certain restricted areas within the hospitals where patients and the employees can smoke. But on the whole hospitals should be free from smoking.

Successful results in the out-patient care

The out-patient health-care clinics are important bodies to reach patients motivated to stop smoking. These clinics are involved more and more in smoking cessation treatment. Some of these clinics have actively started to influence their patients to stop smoking. The Tumba clinic outside Stockholm has developed this working method. The anti-smoking therapy is principally carried out on a voluntary basis.

The medical staff works with great enthusiasm and achieves significantly good results. Smoking cessation work can involve the whole staff at a clinic and thus increase the team affiliation.

The health-care clinics always try to follow up the results for the patients, who have decided to stop smoking. Some health-care clinics like the Tumba clinic is working both with individual and with group therapy.

Smoking cessation at Tumba

Patients contacting the Tumba clinic are always asked about their smoking habits. Patients with diseases related to smoking are always informed about the connection between smoking and the present illness. The nurse or physician tries to motivate the patient to stop smoking. The medical staff at the Tumba clinic feel that patients within the risk groups are very positive to the fact that the health-care clinic pays attention to the individual patient and tries to help him or her to stop smoking instead of just saying: "You should stop smoking".

Group therapy

Those patients who cannot stop on their own are invited to the group therapy during a period of ten weeks. For the first three weeks the participants meet twice a week, the next two weeks once a week. After that a meeting is scheduled a fortnight later. The last meeting is held four weeks later.

Group therapy the most successful method at Tumba

At the Tumba clinic the smoking cessation group therapy is the most successful method. There are great possibilities that a patient participating in the group therapy meets acquaintances working or living in the neighbourhood, which facilitates the contacts and the group affiliation.

Therapy aids

At the beginning of the treatment the patient is lent a book "Stub out" by the well-known Swedish smoking cessation specialist, Dr Ture Arvidsson. At the group meetings one chapter is discussed each time. Each meeting takes one hour and a half. A contract signed by the patient contains promises by the patient to follow certain pieces of advice and to avoid occasions that encourage smoking. The nicotine chewing-gum - Nicorette - is used by most patients as an aid during the treatment.

Age groups

Most of the patients are between 40 and 50 years old. This age group seems to be the most motivated one to stop smoking. Young people who smoke often find symptoms of disease and aging problems too remote to relate them with smoking.

Practical realization of the treatment

Patients suffering from smoking related diseases and judged appropriate for group therapy and also motivated to stop smoking are registered. These patients are invited to a preparatory interview with a nurse. At this meeting the nurse notes down former diseases, smoking habits, expectations of and anxiety for the smoking cessation. This first individual meeting aims to present the objectives of the group and to inform the patient about help and advice available during the treatment.

Who are responsible for the group therapy at Tumba?

Dr Rune Lindqvist, General practitioner, and two nurses share the responsibility for the smoking cessation treatment at Tumba. Dr Lindqvist leads five of the in all ten meetings. The two nurses share the remaining five meetings. The mutual responsibility makes the work a lot easier.



Dr. Rune Lindqvist, general practitioner, and Yvonne Bergmark, nurse, at the Tumba Clinic.

Research and analysis

The Swedish authorities have concluded that research and analysis on attitudes and behaviour to tobacco are important tools in the intensified further work to prevent tobacco use. It is specially urgent to establish proper knowledge about young people's attitudes and behaviour on these matters.

- **Survey about young people's attitudes**

The National Board of Health and Welfare has commissioned The Pedagogic Institution at Gothenburg University to make a study on young people's habits, knowledge and attitudes regarding tobacco. The results of the research will be used as a base for further work with this issue.

- **General tobacco advice for schools**

Follow-up activities to the general advice from the National Board of Education. General rules regarding tobacco education and smoking restrictions at schools were established in 1983.

- **Questionnaire to schools**

A questionnaire to schools will be sent out in order to assemble data about the effects of this general advice and to stimulate the schools to further activities in this area.

- **Analysis and development of textbooks and teaching aids**

Tobacco education at schools depends on the way this issue is presented in textbooks and teaching aids. An analysis of the current presentation of tobacco use in educational material will be carried out in order to form a base for intensified and improved work within the schools in order to prevent tobacco debut.

Current activities

- **A Non-smoking programme for schools**

A programme to help pupils in higher grades to quit smoking will be launched. Special education and teaching aids will be given to medical staff at schools.

- **A film about smoking debut**

NTS and the Swedish Cancer Society are going to produce a

film about young people's tobacco debut. This film is primarily going to present the psychological and sociological processes that influence young people to start smoking and aims to let the audience adopt their own standpoints. This film is primarily meant to be used at schools and in youth centres, but the objective is also to have it shown on television and cinemas.

- **Conferences and other meetings**

For further development of activities against tobacco, information conferences are planned for health advisers within the county councils, the Alcohol-Drugs-Tobacco-contact persons within the educational boards of the county councils and "The National Home and School Association".



Swedish students as smoke-free "Ambassadors" in London.

- **"Smoke-Free schools"**

The association "Smoke-Free youth" has a programme whereby young people teach other young people not to smoke. "Smoke-Free youth" is among other things working with the project "Smoke-free schools". In co-operation with county councils young people are educated to be fitness instructors, who visit schools in order to inform and educate the pupils about tobacco matters. This work has shown very positive results. One representative for "Smoke-Free youth" states the following. - "The Smoke-free schools" project sets out to teach young people how to cope with the social and group pressures on them to start smoking..... and it works! So well that in fact we sometimes have to tell them to let up a bit on their smoking parents!"

- Today in Sweden people think you are tough if you do not smoke and silly if you do, the same fitness instructor says. There is, however, a concern about the increase of oral snufftaking. This habit is growing more and more popular in schools and the users tend to start at a younger age than before. Many boys start, even at the age of twelve years, to take snuff—often in combination with sports. For example they need a kick before a football match, so they take some snuff.

A SMOKE-FREE

Generation

Organizations working with Tobacco and Health

A Smoke-Free Generation
Stiftelsen En Rökfri Generation
Heleneborgsgatan 7
11731 STOCKHOLM
Tel. +46 8 68 91 31

NTS
The National Smoking and Health Association
Wenner-Gren Center
Väning 22
113 46 STOCKHOLM
Tel. +46 8 34 24 20

The Swedish Cancer Society
Riksföreningen mot cancer
Tegeluddsvägen 92
115 28 STOCKHOLM
Tel. +46 8 63 22 34

A Smoke-Free Youth
Förbundet Rökfri Ungdom
Heleneborgsgatan 7
11731 STOCKHOLM
Tel. +46 8 68 91 31

VISIR (We who do not smoke)
VISIR
Upplandsgatan 83
113 44 STOCKHOLM
Tel. +46 8 31 95 35

 **The National Board
of Health and Welfare**

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Socialstyrelsen, Byrån för helseupplysning
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A survey of the current Swedish situation

Smoking is one of the largest health problems of our time. A decrease in the proportion of smokers in a country's population can improve the health status essentially. The prevention of smoking is accordingly a very important issue that should involve the whole community. As a whole the measures taken in our country against the use of tobacco have been successful. During the last fifteen years a marked decrease in smoking has been obtained by various means such as legislation, restrictions on the marketing of tobacco products and extended information campaigns aiming at main target groups. Swedish authorities, voluntary, private organizations and professionals within the medical sector are involved in this project.

More awareness

The objective is twofold. On one hand the activities aim to prevent young people from starting to use tobacco. On the other hand the intention is to persuade smokers to break their dangerous habit. A result of all the information activities is that the whole community is more aware of the fact that smoking has a serious effect on health on a long-term basis. One example of these new attitudes to smoking is that official and public premises to a large extent are made smoke-free. As nicotine is the most addictive drug available as well as being socially accepted within certain groups, the task of decreasing the proportion of smokers in the population has to be carried out as a long-term planning project involving the whole community. Studies carried out since the 70's show that the general educational work – not at least among young people – has been successful. Smoking rates have decreased among all age groups, specially among young males.

The development of smoking habits

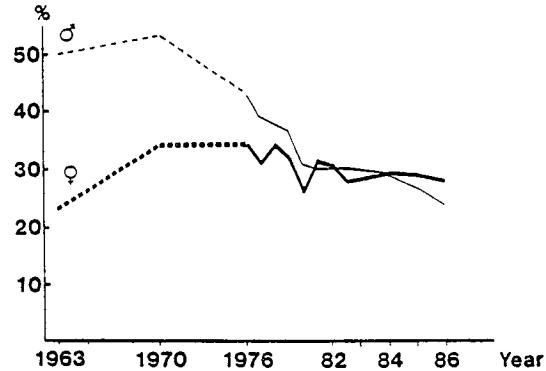
In the middle of the 1920's snuff for oral use was the dominating tobacco product on the Swedish market. The consumption of snuff was twice as high as that of all other tobacco products taken together. Pipe tobacco had the highest sales among the tobacco products that were smoked.

Before the Second World War smoking was a minor problem in Sweden. At that time a large increase in smoking took place.

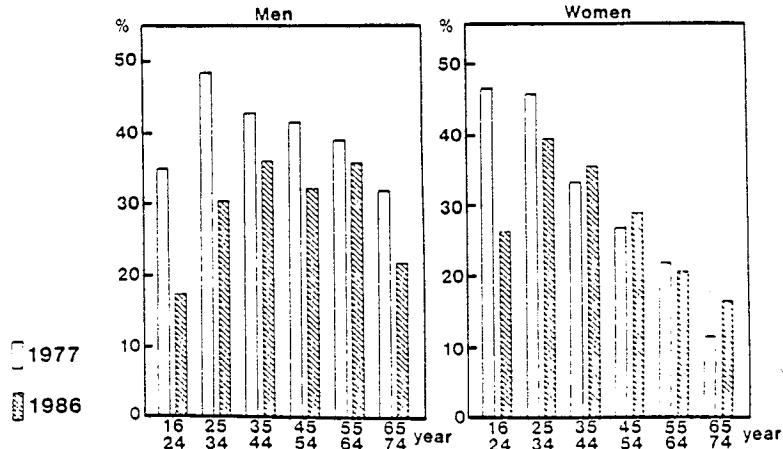
The first nationwide study on tobacco smoking was carried out in 1963. At that time men were smoking cigarettes at a much higher rate than women. This difference in consumption habits has levelled out. Cigarette smoking has been continuously increasing up to the end of the 60's. From 1969 and onwards the proportion of men smoking has decreased. The proportion of women smoking cigarettes continued to increase until 1970. Since then no increase in the smoking habits among women has been shown. In 1977 studies showed that 43 percent of women in the age group 18–24 were smokers compared to 28 percent among men. Equally 40 percent of the women and men in

the age group 25–34 were smokers. Men showed higher rates in cigarette smoking among older age groups. Today on average 24 percent of the men and 28 percent of the women in Sweden are smoking regularly. The proportion of smokers has been reduced since the beginning of the 70's. The male smoking rates have continuously decreased since 1970, and in recent years a downward trend for female smokers also has been noted. At the same time we are facing a new problem in Sweden regarding tobacco use. Oral snuff-taking is becoming more and more popular. And, it is said, snuff can be even more addictive than cigarette smoking. In the second part of the 70's the smoking habits of men and women grew more similar. Certain groups of the population have a larger proportion of female smokers compared to male smokers.

Prevalence of daily smoking in the swedish adult population (18–74 years) 1963–1986. Percentages



Percentage of daily smokers among men and women in various age groups, 1977 and 1986 (National Bureau of Statistics)



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Reasons for stagnation and decrease

The obvious stagnation and decrease of tobacco use in Sweden is a successful result of all the efforts carried out during the past 20 years. The young generation has been influenced by the educational activities carried out by governmental bodies, schools, organizations and associations, which means that a decreasing number of teenagers start smoking.

Trendsetters

Trendsetters, both in establishing the habit and in ceasing to use tobacco, have been men, highly educated people, high-income groups.

Today smoking is most common among middle-aged and elderly people. Generally speaking there is a development of a higher percentage of regular smokers in lower status groups and in the larger towns and cities.

At the same time physicians have led the smoking cessation trend. In 1969 46 percent of the Swedish physicians smoked. In 1983 only 20 percent of this professional group was smoking. On the other hand the rate of smokers is comparatively high among low-paid young female nurses aids.

Class affiliation

As stated earlier the smoking habits for men and women are becoming very similar. At the same time there is a growing tendency that smoking is more common among lower educational groups. The National Bureau of Statistics (SCB) made a socio-economic study in 1985, where it is shown that daily smoking is more frequent among manual workers than among white collar employees. Smoking is not at all as widely spread among the farming population. This pattern is equal for men and women.

Smoking tends to become a matter of class affiliation. Men and women with a low education are more often smokers than groups with a high educational level, who nowadays have the lowest percentage of smokers. Smoking habits no longer depend on sex. The differential habits are probably directed by the way smokers are influenced. Manual workers are definitely more influenced through concrete messages rather than through theoretical, medical information. These divergencies should be considered in a larger extent by the authorities.

Smoking prevention has existed more than 100 years

The first preventive steps against smoking in Sweden started in 1886. The society "Away with tobacco" was established by a small group of people, who rejected all use of, or dealing in tobacco. Ten years later this society consisted of 300 active members, who worked through lectures, discussions, meetings for young people, agitation, publishing of printed matter etc. During the 20's and 30's a large international exchange of work and ideas against smoking took place.

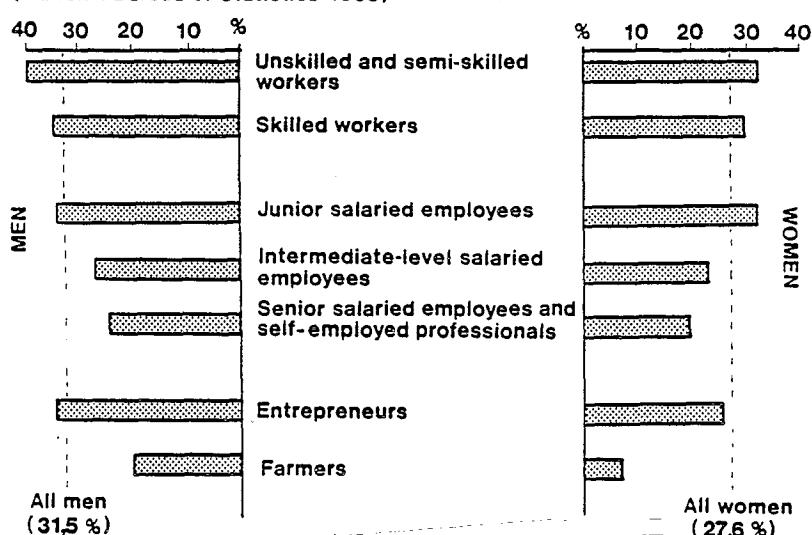
In 1955 "The National Society against tobacco use" (Rmt) was founded. This activity led to intensive discussions about tobacco smoking during the whole decade. In the 60's the name of Rmt was changed to The National Smoking and Health Association, NTS.

In 1964 a group of scientists proposed that the government should provide means for an educational programme on the harmful effects of tobacco. The result was that a yearly government subsidy was established. The amount of money for these grants continuously increased during the years. However these educational activities are still partly dependent on voluntary non-governmental work.

Progressive actions against tobacco use

The National Board of Health and Welfare is the governmental body responsible for all matters concerning smoking and health. The Division of Health Education within the National Board of Health and Welfare is appointed to answer for and effectuate all governmental activities aiming to eliminate smoking. All the measures undertaken or at the planning stage towards a decreasing tobacco consumption in Sweden originate to a great extent from the Official Tobacco Survey carried out by an advisory committee to The National Board of Health and Welfare in 1972 and 1973. The report of this committee was the first of its kind in the world containing a total programme completed with documentation on all damage to health that can be caused by the use of tobacco. The Swedish objectives are first of all to prevent young people from starting to smoke. The basic idea is to achieve a non-smoking generation. The popularity of snuff developing among young people has led the National Board of Health and Welfare to let the activities cover all kind of tobacco use.

AGE STANDARDIZED PERCENTAGES OF MEN AND WOMEN WHO SMOKE DAILY. A COMPARISON BETWEEN SOCIO-ECONOMIC GROUPS.
(National Bureau of Statistics 1985)



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Blueprints for Upgrading the Swedish Programme of Smoking Control

In April 1981 the tobacco committee of the Swedish Ministry of Health and Social Affairs submitted its final report to the Minister of Health. According to its instructions the committee was to suggest plans for the further development and future form of Swedish efforts to reduce tobacco smoking. Taking into account that Sweden is already running one of the world's oldest national programmes for smoking control, the committee report could rather be described as blueprints for an upgrading of this programme.

The overwhelming emphasis in the committee report is on educational activities. It is clearly pointed out that there is a need to supplement the traditional, medically oriented content of information to include a variety of additional subjects. Since the ultimate goals of the programme activities are in the field of life-style factors relevant for health, knowledge alone would not be enough; the forming of opinions and influencing of behaviour are also essential. These additions are not all that is required as far as educational content is concerned; an ex-



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The committee report.

Advances in Swedish Tobacco Policy

Sweden was one of the first countries in the world to initiate smoking control action. Government efforts to combat tobacco consumption began in 1963, when funds were granted for the first time to finance public information about the harmful effects of tobacco. A comprehensive smoking control strategy was drawn up in a report by a special study group at the National Board of Health and Welfare in 1973. The strategy was further elaborated and up-graded in a report from a Tobacco Committee of the Ministry of Health and Social Affairs in 1981. In 1988 the Ministry of Health and Social Affairs again appointed a committee for further elaborating and streng-

thening of the national tobacco control policy. The committee is instructed to present, before the end of 1989, specific proposals concerning

- further measures to ensure smoke-free environments in in-door public places, working places and public transport;
- the use of taxation in tobacco control;
- total ban on tobacco advertisements (in newspapers, magazines, and the like) and strengthening of the restrictions on other forms of tobacco advertising;
- other tobacco control measures.

Main components

The main components of the Swedish tobacco control programme are information and education activities. There is national legislation on the mandatory nature of tobacco or health education in schools. General information on the harmful effects of tobacco is disseminated by means of the health warnings printed on tobacco packets (and included in tobacco advertisements), according to the Tobacco Labelling Act. Information activities are carried out by the National Board of Health and Welfare but also by other central authorities such as the National Board of Education and the National Board of Occupational Safety and Health. Non-governmental organizations, NGO's, such as the Swedish Cancer Society, NTS (the National Smoking and Health Association), VISIR (We do not smoke), the youth association "A Smoke-Free Generation" and others are responsible for many tobacco control activities. Some of these activities are financed to a great extent through governmental support. An increasing amount of practical responsibility for anti-tobacco health education, smoking cessation treatment etc devolves upon the county councils (regional authorities responsible for providing health and medical care etc). Tobacco advertising is heavily restricted according to the Tobacco Advertising Act.

Chronological developments in Swedish Tobacco Control

1963/64	Governmental funding (for the first time) of smoking control information and education
1965	Voluntary restrictions on tobacco advertising
1973	"Tobaksrökning" - A report of an advisory committee to the Swedish National Board of Health and Welfare on national smoking control strategy
1975	Strengthening of the voluntary restrictions on tobacco advertising - Joint action by the tobacco industry and the Consumer Ombudsman
1977	Tobacco Labelling Act comes into force
1979	Tobacco Advertising Act comes into force (strong partial ban on tobacco advertising)
1981	"Minskat tobaksbruk" - Report of the Tobacco committee of the Ministry of Health and Social Affairs on further development of the national smoking control strategy
1983	Authoritative recommendations against smoking in in-door public places, work places etc, issued by the National Board of Health and Welfare and the National Board of Occupational Safety and Health (jointly)
1986	Increased funds for tobacco control information and education
1988	Further strengthening of the application of the Tobacco Advertising Act

1988 Latest increase of tobacco tax. One packet of 20 king-size cigarettes now costs about SEK 18.40 (ca £1.70 or 2.88 US\$)

1988 Appointment of a new Committee for Tobacco Control, instructed to present proposals for further strengthening of the national tobacco control strategy such as legislation to ensure non-smokers' rights, total ban on tobacco advertising etc.

Statistics - Tobacco habits in Sweden

Daily smokers (percentage) among the adult population

After World War II (1946)		25 years ago (1963)		Today (1987)	
Men (18-24)	Women (18-24)	Men (18-69)	Women (18-69)	Men (16-74)	Women (16-74)
50	9	49	23	27	27

Smokers (percentage) among school children (16 years of age)

	1971		1987	
	Boys	Girls	Boys	Girls
	41	47	17	24

Consumption (sales) of oral snuff in Sweden (metric tons)

Year	1947	1957	1967	1977	1987
	3441	2711	2390	3361	4695

Oral snuff-takers (percentage) among men in different age groups

Year	18-24	25-34	Age		Total
			35-54	55-74	
1976	10	11	8	7	9
1987	30*	32	9	7	17

*1987 16-24.



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Who starts smoking?

Most young people today are aware of the fact that tobacco use is a dangerous habit. Nevertheless the amount of new smokers is still high. Experimental smoking as a part of group pressure occurs in the schools. The trend shows, however, that smoking as a regular habit is more frequently established during the vocational education and in business life. Those pupils who start to smoke regularly already at the junior stages of schooling usually have various problems with schools or families. Generally speaking smoking is a more established habit among young people from families with low socio-economical status, with bad grades, aiming at short-term education and subordinate professional positions, than among young people from well-to-do families and aiming at higher education.

Why do young people start smoking?

The inclination to start smoking depends on various factors besides class affiliation and school performance. The idea to start smoking can be influenced by easy access and the comparatively low prices of tobacco products, advertising, the general attitude towards tobacco, the mass-media, smoking in public premises and other factors. Family and school also influence young people in their attitudes to smoking.

The disposition to start using tobacco is influenced by individual, sociological, psychological and pharmacological factors. Knowledge about the harmful effects of smoking, the advantages if you do not smoke, the addictive effects of nicotine, the capability to prevent smoking impulses, etc. affect the decision. It is all interlinked, which means that measures to prevent tobacco debut must involve all factors.

Possibilities to influence

Information and education can influence the individual's knowledge and attitudes. For example the behaviour among parents, teachers and friends and smoking rules in school or at work are also important. Other aspects have to be influenced by restrictions and legislation like advertising and smoke-free public places.

The general information work

The information measures about tobacco and health directed at young people have been thoroughly discus-

sed by the National Board of Health and Welfare, the health advisers within the county councils and representatives for about 30 different authorities and organizations. It is emphasized that the information work has to cover the use of all tobacco products as the use of oral snuff has heavily increased especially among young boys, during recent years. Snuff seems to be the first step towards the use of other tobacco products.

All aspects have to be involved in the information activities. This means that it is not only harmful effects that should be pointed out. Information about social, psychological, pharmacological and behavioural aspects have to be included in the information.

A smoke-free environment

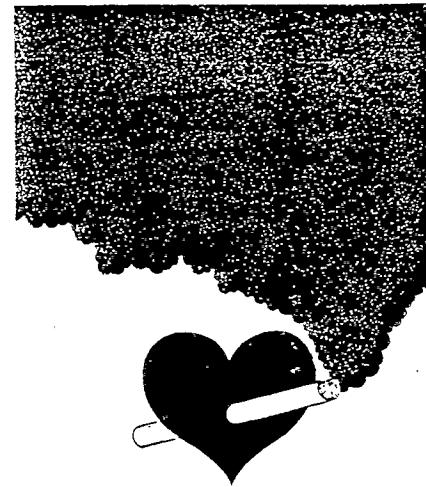
It is very important that communal and public places are made smoke-free in a larger extent. It is obvious that smoke-free schools and youth centres, sport premises, working places and recreation centres can influence the attitudes against the use of tobacco.

Current activities

The National Board of Health and Welfare receives every year substantial means for educational work aiming to prevent young people from starting to use tobacco.

Main activities are:

- Planning of education and discussions for opinion-leaders such as behavioural scientists and specialists, health advisers within the community councils and representatives for various other authorities and organizations.
- Printed documentation for work among young people. Cases in point are contributions made to the NTS for educational material to be used by youth leaders, to "A Smoke-Free Generation" for educational printed matter, for teachers, to the National Association VISIR (We who do not smoke), for printed matter for the project "Our childrens right to a smoke-free environment". The National Association "Smoke-Free Youth" has received allowances for special projects like the publication "Advantage Smoke-free".
- Work for smoke-free public places plays an important part in the structural, influencing work against tobacco use. Examples of activities are "TV-commercials", a poster for places of work, video programmes for the army and the fast-food-chain Clock, printed



HALSA MANIFEST VALLO
matters for maternity welfare centres and child welfare centres, day nurseries, child recreation centres and mass-media in connection with "The Smoke-Free week 1987" with the motto:

Smoke-Free

At work-In leisure time
At home-At school.

The Smoke-Free Week is a very special event taking place during one week every year. This is one of few Swedish arrangements against tobacco, in which a wide range of organizations work together in order to draw peoples attention to the dangerous effects of tobacco. This year The Smoke-Free Week will certainly receive more attention as the Minister of the Labour Market, Anna-Greta Leijon, and the Minister of Health and Social Affairs, Gertrud Sigurdsen, will participate in the general press-conference presenting this event for mass-media.

• Other current projects are specialist meetings on the increasing use of oral snuff and support to the dental care sector for information about tobacco.



2503018005
A procession against smoking organized by the "Smoke-Free Youth" Association.

Smoke-free public places



The present work for "Smoke-Free public places" started already in the 70's. By that time medical information had pointed out that passive smoking is harmful to health. These facts were published in the publication "Tobacco and Us" produced by the National Smoking and Health Association and was further discussed in mass-media. Groups actively working for "non-smokers rights and smoke-free public places" were established. The Tobacco Reports of 1973 and 1981 emphasized in their action plans the need of smoke-free public places. In 1974 the National Association VISIR (We who do not smoke) was founded—having as one objective to work for smoke-free public places.

Among the most active Swedish organizations working for a smoke-free environment are the NTS, VISIR and the National Association against Asthma-allergy. At the end of 1970's and the beginning of 1980's intensive work was carried out to obtain smoke-free premises in hospitals, stations, restaurants and cafeterias, hotels etc.

• "The Smoke-Free Week" is another event where many organizations co-operate to involve the whole community in anti-smoking activities. The National Board of Health and Welfare showed, in a special study about smoke-free public places carried out in 1980, that the Swedish population in general is very positive to rules prohibiting smoking in public places. Most people in this survey were of the opinion that hospitals, post-offices, banks and sports centres should be kept smoke-free.

- In the Tobacco Report 1981 smoke-free working places were a part of the suggested activities. The recommendation was that the National Board of Occupational Safety and Health and the National Board of Health and Welfare should be responsible for information and opinion-leading activities to achieve non-smoking workplaces. In 1983 general advice regarding smoking in shared working premises was established. This means that smokers have to consider the wishes of non-smokers. Shared work-places should to a large extent be kept smoke-free. This is specially indicated for hospitals and schools. Studies show that nine people out of ten in Sweden prefer smoke-free work-places and public places. Today eight out of ten governmental work-places have introduced smoking restrictions. Conferences are generally smoke-free. Canteens and relaxation rooms are partly made smoke-free.

A smoke-free hospital

The Kalix hospital in the Northern part of Sweden was made totally smoke-free in May 1985, including all indoor premises for both staff and patients, with the exception of long-term patients.

- All people in any form of contact with the hospitals were informed about the prohibition. Recruitment advertisements gave information about the non-smoking hospital. The Kalix hospital manager reports that the majority of people have positive attitudes to the smoking ban.

The smoke-free airline

In January 1986 the National Swedish Airline "Linjeflyg" introduced smoke-free flights. This decision was taken out of consideration for the cabin staff and the travellers. Pretests showed that 80 percent of the travellers preferred a smoke-free cabin. The information campaign had deliberately a positive attitude saying "Now, smokers can freely choose their seats". During the introduction all smokers received a small gift—a lighter—to show that the airline had no negative feelings about smokers. Experience shows that there are mainly positive reactions to the non-smoking airline in Sweden. Other airlines have shown interest in this initiative.

Smoke-free taxis

Swedish taxis have to a large extent been made smoke-free during the past few years. Most taxis have a sign asking the passengers not to smoke. But as a taxidriver recently expressed it, "We cannot prohibit smoking, just kindly suggest that the passengers refrain from smoking".

Future development

The National Board of Health and Welfare and the National Board of Occupational Safety and Health are currently working together with voluntary organizations on the issue "A smoke-free environment". Recent findings about passive smoking will accelerate the development of a non-smoking environment. At the same time the international tobacco industry is working against the non-smoking society.

The Anti-Smoking Million

The Swedish Cancer Society is one of the voluntary organizations involved in non-smoking activities such as courses about the harmful effects of tobacco and smoking cessation education for medical staff. Other examples are courses for safety officers and company health-care centres. Information about the working environment and smoking is an issue planned together with the Swedish Trade Unions and trade health-care centres.

The Anti-Smoking Million (in Swedish crowns) is a new grant inviting authorities, organizations and individuals to suggest appropriate anti-smoking measures. This grant has already received great interest and approximately 30 ideas have been sent to the Swedish Cancer Society.

articles concerning smoking. Recently, they published a two-page advocacy advertisement from the Non-Smokers' Right Association headed "30,000 Die While Feds Sit on Hands."

Maclean's and other national magazines have a practice of asking tobacco manufacturers if they would like to withdraw advertisements from an upcoming issue that will have editorial content concerning smoking and health. The tobacco companies usually do avoid advertising in such issues, but place their ads in subsequent issues. A full-page advertisement in a large circulation national Canadian magazine costs \$5,000 - \$10,000.

In Appendix A, the authors suggest a phased ban on advertising over two or three years.

Exempted under sections 21(1)(b) and 23.

The applicants propose a phased ban to give newspapers and magazines (presumed to be most dependent on tobacco advertising) time to diversify their advertising base. In fact, only a small part of newspaper advertising revenue comes from tobacco (less than 5%) while a substantial proportion of billboard advertising revenue (22%) comes from tobacco.

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Application to Regulate Tobacco Products
Under the Hazardous Products Act
by Physicians for a Smoke-Free Canada

COMMENTARY

Neil E. Collishaw,
Chief, Tobacco Products Unit
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Department of National Health and
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Ottawa, Canada, K1A 0L2
990-9067

May 12, 1986

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TABLE 2. Estimates given by male and female smokers in 1989 and 1990 on how long it would take after stopping smoking before damage caused to health by smoking would be remedied (%). In 1989 this question was put to those who smoked factory made cigarettes daily (there were 48 who used other tobacco products) and in 1990 the question was put to all daily smokers.

Time, in years	Men		Women	
	1989 (n=279)	1990 (n=341)	1989 (n=200)	1990 (n=202)
Less than 0.5	19	13	26	25
Over 0.5 but under 2.0	28	25	31	28
Over 2.0 but under 5.0	14	18	12	12
Over 5.0 but under 10.0	6	7	9	5
Over 10 years or never	13	16	6	8
Don't know	20	21	16	22
Total	100	100	100	100

84% of those who smoked daily were of the opinion that cigarette packets already carried sufficient information of the substances included in the product. 57% of those smoking daily, and 87% of men aged 15-24, remembered the caution on a cigarette packet which states that every year over 2000 Finns who smoke develop lung cancer. However, 82% said that this piece of information did not affect their smoking habit and only 15% said that this information had made them smoke less.

Approximately one half of those who replied assumed that mild cigarettes were equally dangerous to health as strong cigarettes (Table 3). Only 2% thought the danger to be much less. Those under the age of 25 were more inclined than the others to believe that mild cigarettes were less hazardous, but there was no significant difference between the sexes.

TABLE 3. The opinion of those interviewed (%) in 1989 and 1990 on the hazard to health caused by mild cigarettes in comparison with that caused by strong cigarettes.

The hazard caused by mild cigarettes compared with that caused by

strong cigarettes	1989 (n=1952)	1990 (n=1902)
-------------------	------------------	------------------

Less	37	37
Equal	47	50
Greater	3	2
Don't know	13	11
Total	100	100

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Swedish Cigarette Warnings

Sweden's tobacco labelling system is unique in terms of the great number, 16, of warnings that are simultaneously in use in a rotational system on cigarette packages.

While a single warning is open to the criticism that it fails to convey a very comprehensive message, the ensemble of sixteen warnings is, as a matter of fact, capable of doing so. Further, the rotational system means that the purchaser of a package never knows beforehand what warning will be presented to him on that very package. Therefore, there will always be a kind of curiosity that makes him really read the warning rather than ignoring it as "too well known". Studies made by the central professional agency for smoking and health in Sweden, the National Smoking and Health Association (NTS), has confirmed, that the Swedish labelling system really does work along the lines outlined here. "But", says Dr Lars Ramström, the Director General of the NTS, "both these good aspects of the system could still be improved by having the set of sixteen warnings changed now and then, since even sixteen warnings might be too well known for too long a time." It is therefore part of the system in Sweden to replace the set of sixteen warnings every second or third year by another set of such warnings. In order further to increase the attention value of the change, there is a change in the graphical shape of the warnings at the same time as the content of the warnings is changed. Now the National Board of Health and Welfare has determined that from 1982 a new set of warnings shall be used. This will be the third set of warnings in use since the introduction of the system in 1977. Some of the new warnings refer to the basic area of smoking and health, such as fitness and smoking-related respiratory diseases, although emphasizing new angles. Some warnings are completely new, reflecting recent developments in scientific research.

For example, one of the new warnings says:

Cigaretter och p-piller är en kombination som ökar risken för hjärtinfarkt hos kvinnor över 30 år.
Socialstyrelsen

The cigarette and the contraceptive pill make a combination that increases the risk of a heart attack in women over thirty years of age.

National Board of Health and Welfare

Generally there is an aim to keep the warnings simple and straightforward in style, as illustrated by another of the new warnings which says:

Hjärtinfarkt före 50 år
drabbar nästan bara rökare.

Socialstyrelsen

Heart attacks before fifty years of age most often strike at smokers.

National Board of Health and Welfare

Another way of making a short warning easily understandable consists in making a quantitative comparison, as in the warning saying:

The level of carbon monoxide in the blood can increase more from smoking than from breathing city air containing a large amount of automobile exhaust gas.

National Board of Health and Welfare

Previously the Swedish warnings touched upon the health risks of passive smoking. One of the new warnings deals with a specific case:

Smoking in a car can cause fellow passengers impairment of the respiratory passages and eye irritation. Children may be particularly susceptible.

National Board of Health and Welfare

While the new set of warnings should be in circulation from the beginning of 1982, it has still not been determined how long they will be in operation. Most probably they will be replaced by another set after two years so that the system can maintain its dynamic nature.



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A slight increase in smoking

The total number of those who have stated that they smoke daily is similar to the result reached by the Finnish National Health Institute (Kansanterveyslaitos) in their study (20), which was conducted by post. According to that study, 20% of women and 32% of men stated in 1990 that they smoked daily. The variations found in the results, consisting of a couple of percentage points, were most likely caused by the difference in sample size and research method.

There seems to be a slight increase in smoking. This view is also supported by the increase in the total consumption of tobacco products in Finland in 1987 - 1989 (21). During this period the consumption of cigarettes and cigars increased, but that of pipe tobacco, and loose cigarette tobacco, decreased.

The greatest increase in smoking over a two year period appears to be among young men. The increasing number of young people who smoke is particularly alarming, as the young can still be expected to have a long life in front of them. Thus the harmful effects of smoking will have time to cause various health hazards whilst these people are still at a working age, particularly if they continue smoking.

TABLE 4. Daily passive smoking at the work place by men and women (%) who worked outside their home in 1990.

Daily time of passive smoking	Men (n=651)	Women (n=587)	Approx.
Over 5 hours	20	7	14
1-5 hours	23	8	16
Less than 1 hour	12	7	10
Not at all	42	77	58
Don't know	3	1	2
Total	100	100	100

TABLE 5. Smoking allowed (%) at a work place outside the home and in an environment where those interviewed worked with others in 1988, 1989 and 1990.

Smoking at the work place	1988 (n=986)	1989 (n=1078)	1990 (n=981)
Allowed everywhere	27	26	23
Allowed in certain areas	30	34	36
Not allowed at all	41	37	37
Don't know	2	3	4
Total	100	100	100

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TABLE 6. The harmful effects (%) of passive smoking in 1988, 1989 and 1990 experienced by those interviewed when they worked in a place where there was tobacco smoke present.

Harmful effect	1988 (n=373)	1989 (n=452)	1990 (n=487)
No harmful effect	48	45	45
Some harmful effects	27	27	31
Disturbs working	17	16	14
Causes symptoms	7	11	10
Don't know	1	1	0
Total	100	100	100

Table 7. Opinions of men and women (%) working outside their home about restricting smoking at the work place in 1988, 1989 and 1990.

Smoking at the work place	Men			Women		
	1988 (593)	1989 (661)	1990 (651)	1988 (620)	1989 (617)	1990 (587)
	Should be allowed without restriction	10	13	11	3	2
Should be restricted partly or totally	86	83	84	95	96	96
Don't know	4	4	5	2	2	2
Total	100	100	100	100	100	100

Passive smoking still wide-spread

The Finnish Tobacco Act (22) contains limitations regarding both smoking related advertising and also smoking as such, for example in public places. However, the Act does not cover smoking at the work place, although at some work places, being subjected to tobacco smoke, either alone, or particularly in conjunction with other hazardous substances, (e.g. asbestos), constitutes a substantial health risk. The Finnish National Medical Board has issued national recommendations on limiting smoking at the work place, and the National Board of Occupational Health has issued its guidelines on the same subject. The object is that nobody should be subjected, against their free will, to any health hazard caused by tobacco smoke at the work place.

According to the study (20) conducted by the Finnish National Health Institute, passive smoking at the work place had slightly decreased from 1988 (25%) to 1990 (22%). On the basis of this study it was still wide-spread in 1990, particularly amongst men.

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The same trend is shown among girls who play football. The growing snuff habit is heavily promoted by marketing campaigns.

- Drawing competitions and video films

Drawing competitions is one way to work with the smoking problems in schools. The development is going from previously frightening pictures to positive images presenting a nonsmoking community.

A video film will be produced in order to spread the information further and also to enable the development of new techniques for the education of teachers.

- A Smoke-Free Generation

Since 1979 there is a special campaign "A Smoke-Free Generation" aiming at influencing young people's attitudes. The objective of this campaign is to "market" a non-smoking life style as the modern, fashionable and right way of living. This was the first major campaign against smoking having a positive approach.

A Smoke-Free Generation includes

- Mass-media information, advertising and pop-music concerts often in co-operation with well-known artists.
- A schools programme.
- Promotion materials such as T-shirts, posters, stickers etc. Since 1982 this campaign is administered by the Smoke-Free Youth Association. An international organization is working with the implementation of this programme in other countries.



T-shirts as sales promotion material for the "Smoke-Free Generation" campaign are very popular among young people.

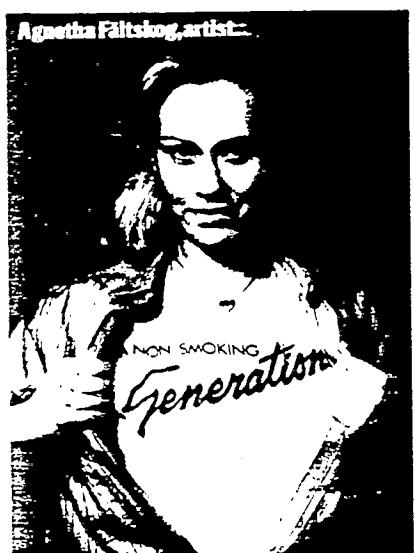
- Smoke-free teams

The Swedish Federation of Sports Associations, The Swedish Corporation Sports Organization (Korporationsidrottsförbundet) and the association "Smoke-Free youth" work in co-operation with a special project to interest sports teams to officially present themselves as "smoke-free" in order to stimulate the non-smoking trend in sports. Later on, the smoke-free teams also should be presented as snuff-free. The aim is to establish a better health awareness within the Swedish sports movement.

- Special "Girl activities"

Various organizations have expressed interest in directing activities specially for girls, who are today smoking more frequently than boys. Several activities are planned by the Swedish Frisk Sport Association, the "Smoke-Free Generation" Foundation and by the National Board of Health and Welfare.

The above mentioned projects are partly paid for by governmental funds. The organizations each support their own projects but are in some cases dependent on contributions from other sources.



Agneta Fältskog, former member of the ABBA group, supports the "Smoke-Free Generation" campaign.

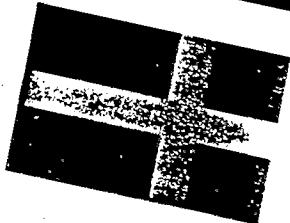


Tomas Ledin, also a well-known Swedish show artist, has been involved.

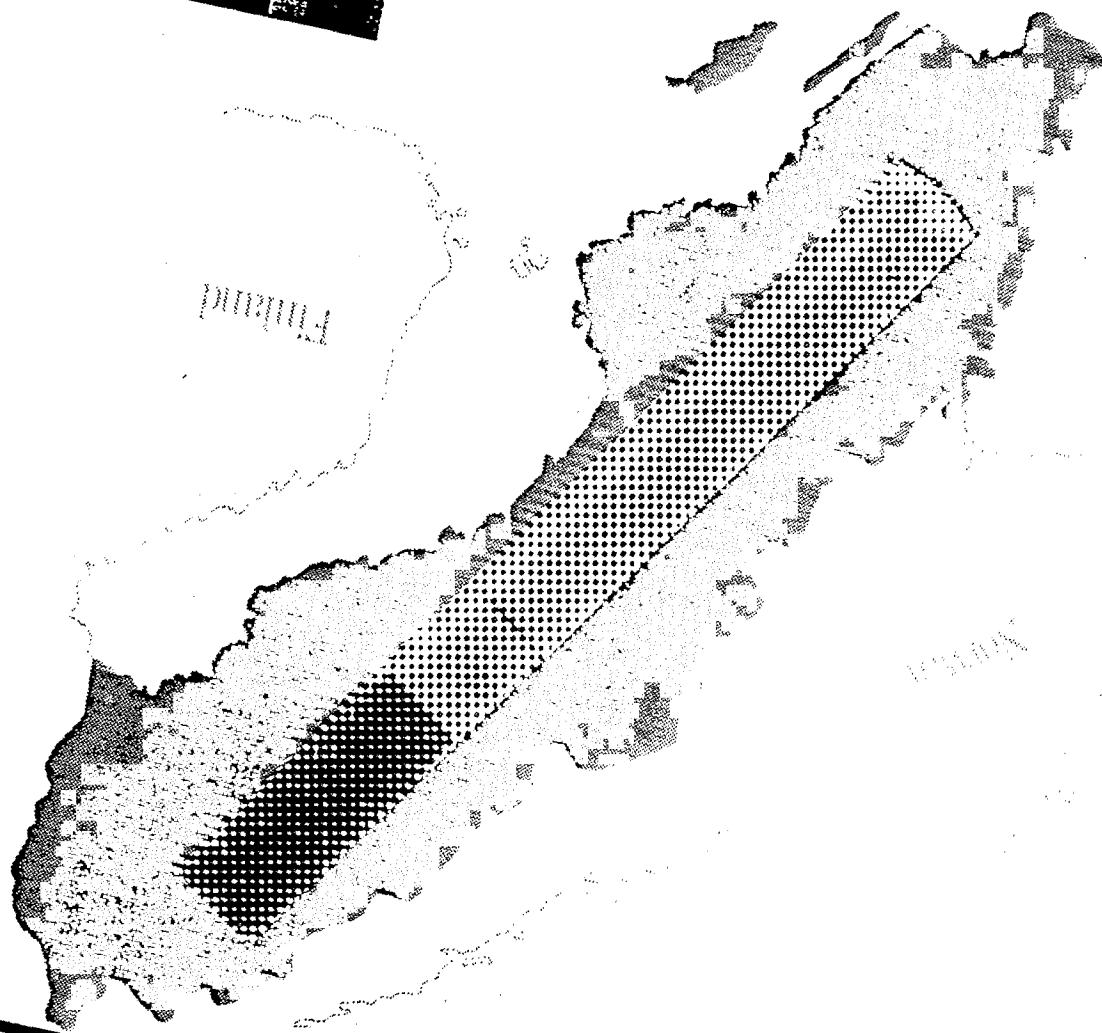
Further Plans

The special governmental funds for intensified information and education activities for reduced tobacco use will in the future partly be used for co-operation with authorities and organizations, that have previously only been involved to a small extent in the anti-tobacco work. Special emphasis will be laid on activities aiming to influence the recreation sector and certain parts of the adult world like working life. Studies show that smoking habits are to a large extent manifested when young people start working. As a result of this trend co-operation with trade unions is under discussion.

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IN SWEDEN



TOBACCO CONTROL

16-20 reported smoking daily. In the same year 24% of Canadian boys and 25% of Canadian girls aged 12-19 reported daily smoking. Annual per capita consumption of tobacco did not change markedly from the 1950's in Norway until 1980 whom the price was increased substantially through taxation. Relative to other industrialized countries, Norway has a very low rate of tobacco consumption. It also has the longest experience with an effective prohibition of tobacco advertising. However, neither data on changes in smoking prevalence among youth nor changes in overall tobacco consumption in that country offers compelling evidence that banning tobacco advertising reduces either smoking by youths or overall tobacco consumption. The evidence is suggestive, but not conclusive.

Also in Part III - 5(f), evidence is presented that children are most likely to smoke the most heavily promoted brands. Several studies in different countries have all reached this conclusion. However, the most heavily reported brands are also the most widely used, suggesting that it is also possible that children are influenced by what they see other people smoking, perhaps more so than advertising expenditure by brand.

In Part III - 5(g) it is indicated that the tobacco industry spent an estimated \$96 million on advertising in 1982. The Canadian tobacco Manufacturers' Council, representing 99.5% of domestic cigarette sales, reported spending \$75 million on tobacco advertising in 1985.

In Part III - 5(i) it is asserted that Maclean's has never carried a "major article on the health hazards of smoking." What constitutes a "major article" is open to interpretation. In fact Maclean's has carried many

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Part II, Sections A, B and C present a generally fair and accurate account of the contents of tobacco smoke, the health hazards of tobacco and tobacco addiction. The authors indicate the U.S. Surgeon-General reports smoking to be a contributory factor in cancers of the bladder, kidney and pancreas. However, a recent authoritative review from the International Agency for Research on Cancer (IARC monographs on the evaluation of carcinogenic risk of chemicals to humans: tobacco smoking, Volume 38, IARC, WHO, Lyon, France, in press) concludes that cancers at these sites should now be considered as causally related to cigarette smoking. Other cancers previously identified as causally related to cigarette smoking are cancers of the oral cavity, larynx, oesophagus and lung.

In Part III - 5, the applicants present a number of clear and well-reasoned arguments as to why tobacco advertising needs to be regulated. Recommendations to regulate tobacco advertising have been made repeatedly by professional, governmental and international health agencies, many of which are cited.

In Part III - 5(e) data on smoking among youth are cited. A February, 1986 survey indicates that there was virtually no change in daily smoking among youth aged 12-29 since February, 1985. In February 1986, 24% of 12-19 year olds reported smoking daily as did 45% of those aged 20-29.

In Part III - 5(f) data on smoking among Norwegian youth before and after the institution of a legislated smoking ban in 1975 are cited. However, the changes cited are based on small samples of a rather narrow age range (13-15) of adolescents. In 1984, 27% of Norwegian boys and 22% of Norwegian girls aged

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RESULTS

Of the men interviewed in 1988, 35% stated that they smoked daily, in 1989 33%, and in 1990 36%, while the respective figures for female smokers were 20%, 20% and 21%. Smoking amongst men under the age of 35 seemed to have increased, but had decreased in the 55-64 age group. 8% of those interviewed stated that they smoked, but not daily. Every fourth man who was interviewed had stopped smoking, and approximately 15% of the women. 8% of those interviewed in 1990 stated that they had tried snuff or chewing tobacco, and this figure was as high as 25% among the men aged 15-24.

According to the replies given in 1990, men smoked, on average, 18.7 factory-made cigarettes daily, and women 12.5. Of those smoking daily, 88% agreed that the amount that they were currently smoking was detrimental to their health (Table 1).

TABLE 1. The opinion of those who smoke daily (%), in 1989 and 1990, on whether the amount they currently smoke is harmful to their health. In 1989 this question was put to those who smoked factory-made cigarettes daily, (there were 48 who used other tobacco products), and in 1990 the question was put to all daily smokers.

Level of harm caused to health	1989 (n = 479)	1990 (n = 543)
Not at all	5	5
A little	52	56
A lot	26	23
Very much	11	9
Don't know	6	7
Total	100	100

45% of those were of the opinion that even a single cigarette was harmful to their health, and 13% did not believe that smoking even more than 20 cigarettes was harmful to their health. Women, more often than men, assumed that any damage to health caused by smoking would disappear within six months (Table 2).

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Table 2. Mean cigarette consumption per day among daily smokers by age and sex

Age	Cigarettes per day (mean)	N
<i>Boys</i>		
12	4.6	17
13	4.8	56
14	5.4	149
15	7.1	188
<i>Girls</i>		
12	3.4	12
13	4.4	57
14	5.3	136
15	6.5	222

that they smoked daily or occasionally is 28% for the boys and 24% for the girls ($\chi^2=4.50$, $df=1$, $p<0.05$). Among the group aged 15 there is a higher percentage of girls who smoke either daily or occasionally: 59% as against 47% for the boys. ($\chi^2=23.27$, $df=1$, $p<0.001$). The percentage who have tried smoking is 72% for boys and 60% for the girls in the lowest age group ($\chi^2=28.29$, $df=1$, $p<0.001$). Among those aged 15 on the other hand, there is no noticeable difference between girls and boys in percentage who have tried smoking. The figures are 88% and 87% for girls and boys respectively ($\chi^2=0.40$, $df=1$, $p>0.05$).

On the basis of the figures given above the development of daily smoking among girls and boys is parallel for the age groups 12–14 years. Among those aged 15, however, there is a significantly higher proportion of daily smokers among the girls. If occasional smokers, or in addition those who have tried to smoke are included, it is further shown that while more boys smoked at an age of 12 years, more girls did so at an age of 15 years. The general conclusion therefore is that there seems to be a greater increase in smoking among girls in the present age groups and that at the end of compulsory schooling, smoking is more widespread among girls irrespective of how smoking is defined. Among daily smokers cigarette consumption increases with age (Table 2). 12 year old boys smoke daily averagely 4.6 cigarettes and girls 3.4 cigarettes. At 15 years this increases to an average daily consumption of 7.1 cigarettes among boys and 6.5 cigarettes among girls, the increase being significant for both sexes (Boys: $F=8.66$, $df=3,406$, $p<0.001$; Girls: $F=6.25$, $df=3,423$, $p<0.001$).

Developments from 1957–1975

Table 3 and Fig. 2 show changes in smoking habits of Norwegian schoolchildren for the period 1957–1975. It is seen that daily smoking has increased among boys and girls in all age groups. The increase seems to be particularly obvious among the girls for the period 1963–1975. If occasional smokers are added to the daily smokers through all three studies, a decline in smoking among boys may be observed, while for girls there is a marked increase in smoking in the oldest age group (13–15 years).

There was no nation-wide study of smoking among schoolchildren in Norway between 1963 and 1975. Accordingly it is not known whether the increase in daily smoking among children of both sexes has occurred evenly throughout the intervening period or whether the trend may have reached a peak and culminated sometime between the two dates. A series of studies from Oslo indicate that even daily smoking may be on the decline in certain urban areas after having reached a peak at the middle of the seventies (Irgens-Jensen & Rud, 1977). While 46% of the girls and 42% of the boys smoked daily according to a study from 1974, the figures were down to 35% and 30%, respectively, in 1980. A reduction in the percentage of daily smokers has also been confirmed for a representative sample of boys in Bergen, while girls in the same town only showed minor variations (Irgens-Jensen, 1980). Data collected from a rural area of Central Norway (Valdres) showed no decline in daily smoking among 12–15-year-old pupils between 1975 and 1978. ($n=781$). On the contrary, the figures rather

Table 3. Smoking habits in 1957, 1963 and 1975 by age and sex

Age	Boys			Girls		
	1957	1963	1975	1957	1963	1975
<i>Per cent daily smokers</i>						
12	(a)	1	2	(a)	0	2
13	3	3	7	0	1	7
14	6	8	16	0	3	16
15	12	19	23	3	7	28
<i>Per cent daily + occasional smokers</i>						
12	a	47	28	a	28	24
13	57	47	35	25	33	36
14	57	50	46	36	38	51
15	60	58	46	40	43	59

^a The 1957-study did not include pupils 12 years old.

THAILAND

Tobacco Leaf Production (in metric tons)							
	1984	1985	1986	1987	1988	1989	1990
Leaf Production	74643	70330	60442	62391	54462	60245	70898
Leaf Exports	35500	31615	30315	26953	30945	27247	34549
Leaf Imports	6947	8736	9288	3374	5724	7515	9180

Source: Foreign Agricultural Service-U.S. Department of Agriculture

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oking often begins at an
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two studies the average
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s than among girls. In a
in England and Wales,

Bynner (1969) found an increase in the percentage of those who smoked at least one cigarette daily from 4% in the age group 11-12 years to 38% among those aged 15. All the other British studies showed a similar increase for the same age groups, but with lower percentages for girls. Recent studies indicate, however, that smoking is now becoming more prevalent among girls than among boys (Rorke, 1977; Pearson & Richardson, 1978).

Some of the British studies concluded that smoking is more prevalent in towns, in densely populated areas and in districts in the centre of towns than in rural areas, and on the outskirts of the towns.

American studies in the period 1968-1974 (DHEW publication, 1976) conclude that there has been little change in the percentage of boys who smoke at least once a week. Among the girls, however, there has been a gradual increase in the percentage of smokers in all age groups. This has practically eliminated the difference in smoking between boys and girls. In 1968 the percentage of girls who smoked was only half of that of the boys. In 1974 there was no longer any difference of the smoking habits between the sexes. A study from California (San Mateo County Dep., 1976) confirms the unfavourable trend among girls as regards smoking. Since 1970, when the girls passed the boys, the percentage of smokers among girls has increased, while the proportion of boys who smoke has been continuously falling.

In 1974 a study was conducted on drug usage among schoolchildren and students in Toronto (Smart & Fejer, 1975). The results were compared with similar studies from 1968, 1970 and 1972. While drug usage in general showed little change from 1972 to 1974, smoking habits did. The percentage of smokers in the sample, which comprised pupils in the 7th, 9th, 11th, and 13th grades, declined from 38% to 34%. The ratio between the percentage of smokers among girls and the percentage of smokers among boys increased through the four studies. In 1974, one could for the first time report a higher percentage of smokers among girls. (See also Rorke, 1977.)

Tölle (1974) reports on West-German studies on smoking among children and adolescents. In the age group 10-18 years in a larger town in Germany, the percentage of smokers was 41% among the boys and 33% among the girls. Only about a quarter of the young people smoked regularly. Comparable results were also found for other geographical re-

gions. Boys in the age group 17-18 years smoked less than their fathers. Girls in the same age group, however, smoked to a greater extent than their mothers. This may indicate that the similar tendency apparent in North America, Great Britain and the Scandinavian countries also applies to Germany. In all these countries the ratio of per cent smokers among girls over per cent smokers among boys has increased.

METHOD

The intention of the project was to make a survey of smoking habits in those grades of the primary school where smoking begins to be customary. A pilot study showed that there was little smoking before the age of 10-11 years. At the age of 11 years about half of the pupils had tried to smoke, at 12 years of age more than 80% of both sexes had tried to smoke. To avoid stimulating interest in smoking at too low age levels, it was decided to exclude the age-groups 10-11 years. The project thus comprised the age groups 12-15 years.

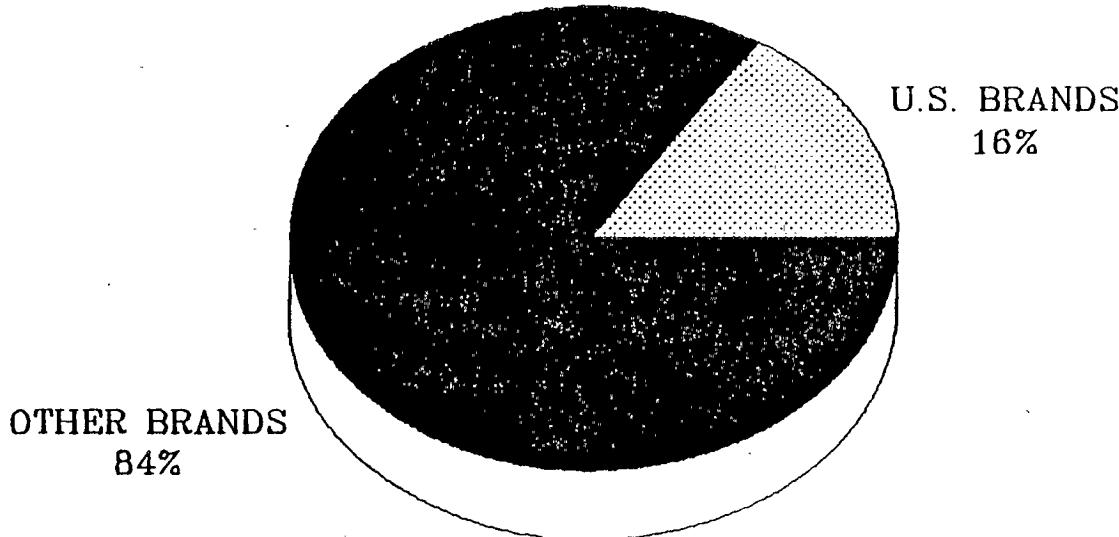
According to figures from the Central Bureau of Statistics, the population comprised about 243 000 pupils of which 51% were boys. A somewhat unusual procedure was chosen for the collection of data. All schools in Norway with pupils in the relevant age groups were asked to participate in local studies and sum up the results in own reports. The information asked for in the school-reports (to be filled in by the headmaster of each school individually) was number of daily smokers, number of occasional smokers, and number of non-smokers for boys and girls for each grade. There were also questions about anti-smoking measures, size of the school, its location, organizational pattern etc. In addition, the schools were asked to return completed questionnaires (anonymous) from all the pupils born on the 6th of each month. With 100% participation by the schools and no absence among the pupils, this would give a sample of about 8 000. A registration of the whole population is of course unnecessary if the only purpose is a mapping of smoking habits. However, by giving all schools in Norway with pupils in the relevant grades the opportunity to participate through local studies, the intention was to stimulate the teachers', parents' and pupils' interest in the prevention of smoking at younger ages.

Questionnaire and instruction

In the pilot study, 500 pupils from an urban and a rural district were interviewed twice. Different questionnaires, interviews and instructions were used on the two occasions. The pupils' replies concerning own smoking habits seemed to be moderately influenced by the interview procedure. After a further adjustment of instructions and questionnaire, it was agreed that a sufficiently precise instrument had been developed for the registration of smoking habits among schoolchildren.

The material sent to the schools consisted of:
— briefing to the headmaster/headmistress

JAPAN
1990 MARKET SHARE - U.S. BRANDS



* Cigarettes using trademarks of U.S. brands either manufactured in the U.S. or locally

Source: Tobacco Institute of Japan (govt monopoly is principal member)

2503018051

Smoking among Norwegian schoolchildren 1975-1980

I. Extent of smoking in the age group 12-15 years, 1975

LEIF EDWARD AARØ
ARNE HAUKNES
ELSE-LILI BERGLUND

University of Bergen, Norway
National Council on Smoking and Health
Oslo, Norway

Aarø, L. E., Hauknes, A. & Berglund, E.-L.: Smoking among Norwegian schoolchildren 1975-1980: I. Extent of smoking in the age group 12-15 years, 1975. *Scandinavian Journal of Psychology*, 1982, 22, 161-169.

213 600 pupils from grades 6-9 (age 12-15) in the primary school in Norway filled in a questionnaire about smoking habits (1975). The headmaster of each individual of the 2824 schools participating in the study filled in reports giving the local frequencies of daily smokers, occasional smokers and nonsmokers for each grade and for boys and girls separately. The school-reports also contained questions about demographical properties of the school. A sample of 6968 questionnaires from the pupils (those who were born on the sixth irrespective of month) were also submitted for statistical analysis. Compared with previous studies, the percentage of smokers among girls proved to have increased considerably. The tendency found in many western industrialized countries, that smoking is increasing among girls more than among boys, or that boys are reducing smoking to a greater extent than are girls, was confirmed also for Norway. In all 19 counties there was a higher percentage of daily smokers among girls than among boys. Higher percentages of occasional smokers or pupils who had tried smoking were found in small schools and scattered settlements. Norway may be divided into geographical areas according to the differences in the smoking habits of girls and boys. In the counties in the south and to the west, girls have not surpassed boys to the same extent as in the rest of the country. From previous political-cultural research it is known that the south and west is characterized by temperance and prohibition movements, higher frequencies of religious attendance, as well as a distinctiveness in voting behaviour.

L. E. Aarø, National Council on Smoking and Health, Box 8025 Dep., Oslo 1, Norway.

In 1975 the National Council on Smoking and Health began a research project on smoking among Norwegian schoolchildren. The project included a series of data collections and separate studies, all with the aim of clarifying and making more effective the measures intended to limit the extent of tobacco smoking at young age, and to delay or prevent start of smoking. The project forms the basis of the present strategy of the National Council on Smoking and Health in its information campaigns among young people.

The project on smoking among schoolchildren in Norway is not concluded, but will continue for a number of years in the form of new studies and data collections. In this way a continual feedback on the

measures implemented will be obtained. The present article focuses on the prevalence of smoking, whereas article II will comment upon the influence of the social environment on smoking habits, and article III on the effect of anti-smoking campaigns (Aarø, 1981 a; 1981 b).

As early as in 1957 the Norwegian Cancer Society conducted a study comprising more than 9 000 schoolchildren (Nilsen, 1959). For purposes of comparison it may be mentioned that the international pioneer study—Daniel Horn's Oregon Project—was conducted in 1958 (Horn et al., 1959).

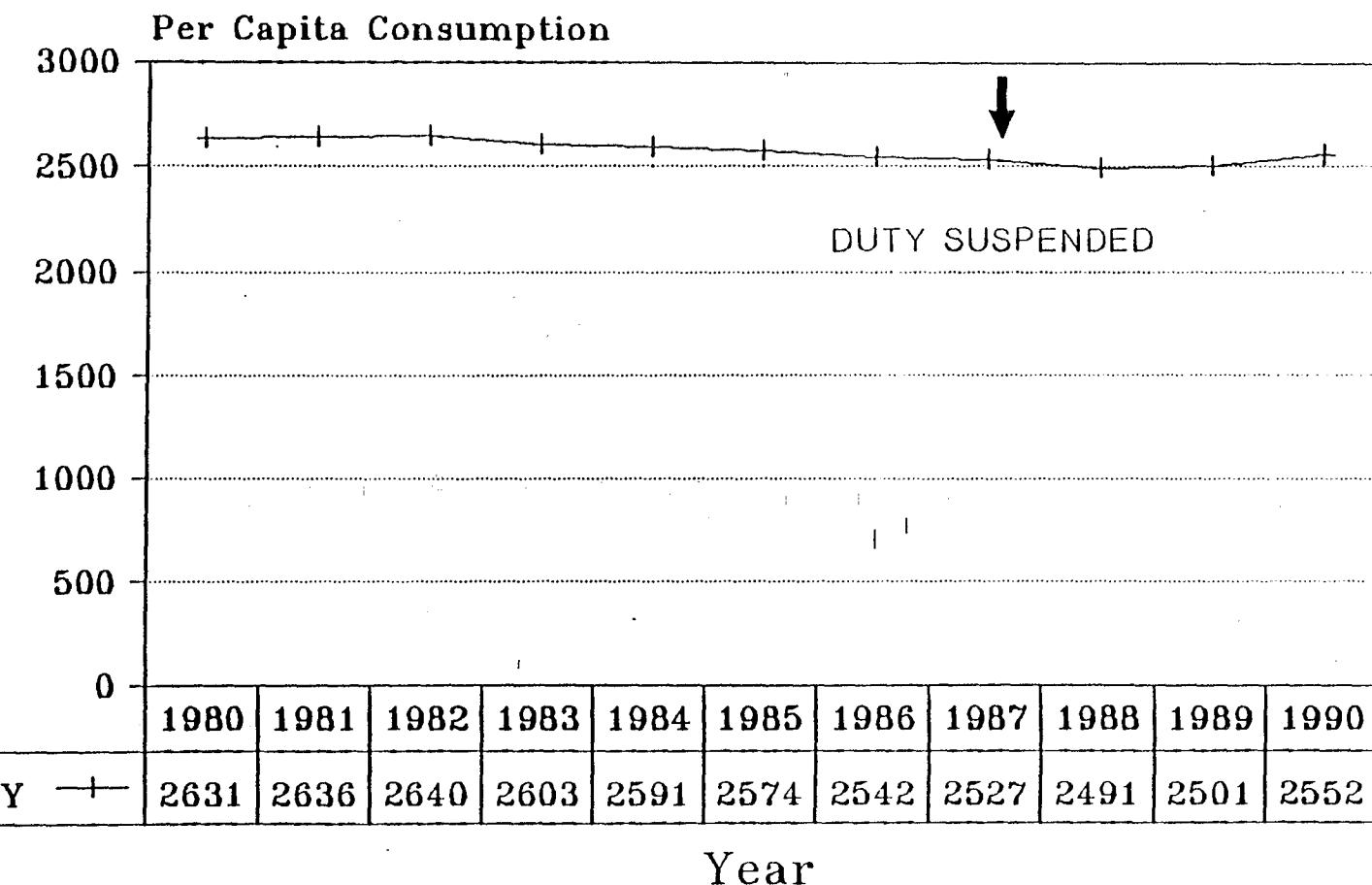
The first study on smoking habits among a sample of schoolchildren in Norway (1957) was followed up by new studies in 1963 and in 1967

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Scand. J. Psychol. 22

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JAPAN PER CAPITA CONSUMPTION



Consumption: US Dept of Agriculture
Population: United Nations

2503018050

Prohibited marketing activities

In order to keep a very low profile and avoid the encouragement of the use of tobacco specially among young people the following promotion measures are prohibited:

- Direct mail or similar activity directly turning to the consumer.
- Commercials at cinemas or theaters.
- Broadcast advertising.
- Outdoor advertising.
- Advertising within areas where sports events take place.
- Advertising in sports magazines or the sports pages in daily newspapers.
- Advertising within hospitals or similar premises.
- Advertising in publications mainly dealing with health-care.
- Advertising in magazines, the majority of whose readership is under the age of 20.
- Advertising on the front or back covers of popular press publications.
- Advertising in premises mostly visited by young people under the age of 20.
- Advertising within schools and other educational institutions.
- Demonstrations or free samples to people under 20 years of age. It is mandatory that all kinds of demonstrations and sampling have to be connected with purchase irrespective of age.

- Gift samples.
- Lotteries or advertising contests.
- Trading stamps and similar offers.
- Combination offers—with the exception of tobacco utensils of low value.

The National Board of Consumer Affairs is the responsible body for marketing restrictions on tobacco products. The Consumer Ombudsman has the authority to intervene if individual companies do not follow the guide-lines.

Advertising rules

Today it is laid down that tobacco advertising can only show the package or the cigarette on a neutral background. The tobacco warning text has to be included in every advertisement with its special layout and a minimum size. In daily newspapers the advertisement for any tobacco brand must not amount to more than 1000 column millimeters. In the popular press the size of the advertisement must not exceed 3/4 of a page. The copy has to be based on facts with no promoting slogans, testimonials or the like.

In 1987 further restrictions on promotional and display material have been introduced. Rules on moderation in advertising are strengthened and display material is limited in size and use. A normal size—maximum 1.25 sq.m.—of store-display is allowed but flags, banners, sun blinds, umbrellas are prohibited. These new rules are to be brought into effect by the 1st of January 1989. A special trade organization will deal with all questions regarding marketing rules for tobacco products in the retail trade.



A typical Swedish cigarette package with health warning and declaration of contents.

Happy New Smoke-Free Year!



2503018012

cent daily smokers 1957, 1963
age and sex. (*No data on
pupils for 1957.)

between boys and girls of daily smokers. In this difference between girls and boys is farthest to the east less difference in the country. The trend that girls have passed the boys as regards smoking seems to be less pronounced and southernmost parts of geographical variation is cultural studies. Most of the girls' lead over the boys in characterized by temperaments, religious attendance, openness in voting being "constituted a bulwark for orthodoxy and pietistic fundamentalizing and secularization". (Rokkan, 1967). It is interesting that sex differences as seem to be part of the culture of the south and west. Thus taken into account when young are concerned.

cent daily + occasional smokers and 1975 by age and sex (*No data on year-old pupils for 1975.)

Other demographic variables analyzed in relation to smoking habits separately for boys and girls were number of pupils at the local school, type of settlement in the surrounding of the school (densely, scattered, or both), increase in population in the district in the last five years, increase in number of pupils at the local school in the last five years, and age of the school (more than five years old or not).

In small schools and scattered settlements, the percentage of pupils who had tried smoking was significantly higher than for larger schools and densely populated settlements. At the age of twelve, in schools with less than 300 pupils, 77% of the boys and 63% of the girls had tried smoking. In schools with more than 500 pupils, the figures were 61% and 46%, respectively (Boys: $\chi^2=12.53, df=2, p<0.01$; Girls: $\chi^2=13.80, df=2, p<0.01$). Among girls in sparsely built-up areas, 68%, 80% and 90% had tried smoking at the ages 12, 13 and 14 years. The figures for densely settled areas are 56%, 72% and 80%, respectively (12 years: $\chi^2=9.32, df=1, p<0.01$; 13 years: $\chi^2=4.64, df=1, p<0.05$; 14 years: $\chi^2=8.48, df=1, p<0.001$). This may indicate that it is more difficult to escape from social norms favouring smoking in smaller social milieus than in larger schools and more densely populated areas. This tendency, however, is valid only for occasional smoking or smoking tried, not for daily smoking. A high percentage experimenting with smoking, combined with a low percentage of daily smokers may be due to some conflict between the peers' pressure in favour of and the parents' pressure against smoking. (See Aarø, 1981 b.)

DISCUSSION

The 1975-study of smoking among children and adolescents in Norway received overwhelming support. Schools with pupils in the relevant grades were given the opportunity to join the project voluntarily, and almost all of them did. This shows a high interest in this branch of health education among teachers. A study (Seip, 1978) on the smoking habits of primary school teachers in Norway has shown the percentages of daily smokers in this group to be low, 25% among men and 15% among women. This may be one explanation of the high response rate.

The prevalence of smoking in a population follows a somewhat complex pattern. Certain groups of the population are the first to start smoking, and

the same groups may well be the first to curtail it. At the beginning of the 1950s and beginning of the 1960s, smoking was far more widespread among boys than among girls.

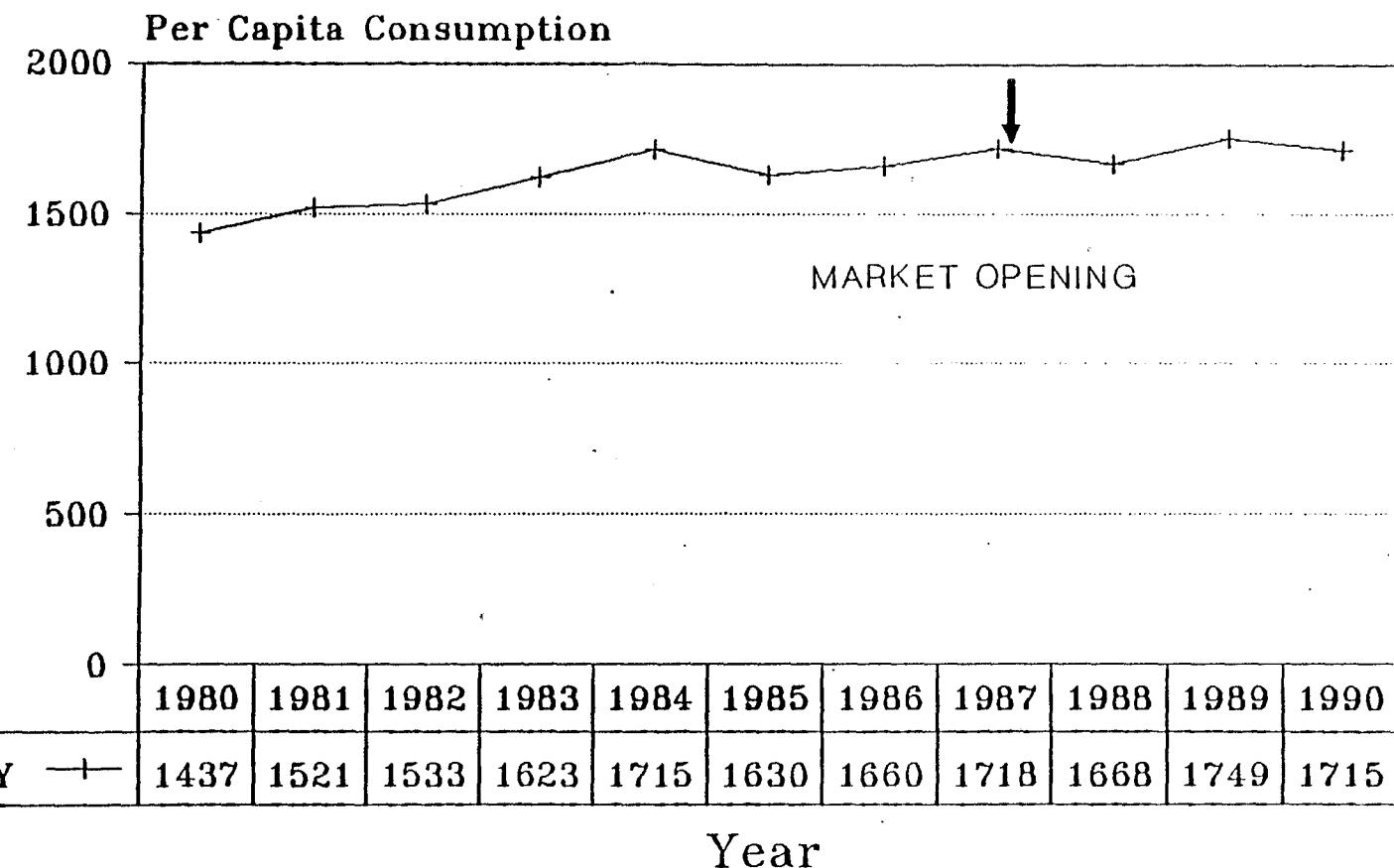
In 1975, in all counties of Norway, there is a higher prevalence of smoking among 15-year-old girls than boys of the same age. This implies a changed situation with regard to smoking education and it becomes especially important to develop information strategies particularly addressed to girls.

In addition to the results quoted so far, a series of surveys on smoking habits in the adult population (Norwegian Cancer Society 1956-1980; Central Bureau of Statistics 1973-1980) may be mentioned. It is known that the prevalence of smoking among women has increased over a number of years right up to the start of the 1970s, while smoking has simultaneously declined among men. Presently men are ahead of women in the process of development represented by changes of smoking habits in the population. It seems that the same applies for young people. While smoking among boys was the greatest problem 20 years ago, it is smoking among girls which in 1975 presents the greatest challenge. This development is not unique for Norway, but rather a general trend which can be observed in a number of western industrialized countries.

A question of practical interest is at what age smoking can be opposed most effectively. The present results suggest 13 years as the critical age. There is hardly any smoking among pupils in younger age groups. In these groups intensive information campaigns may lead to increased experimenting with smoking. Intensive stop-smoking campaigns before the age of 13 may easily give the impression that a large number of children do smoke at this age, and may thus legitimize smoking for those who have never tried it as well. Among younger children, anti-smoking campaigns should be aimed rather at influencing attitudes than behaviour. Careful planning is probably necessary to avoid boomerang effects among the younger children.

It is known from previous studies in Norway that certain vocational groups and certain social sectors of the population are the first to curtail smoking. In the period 1952-1974, medical doctors of both sexes reduced smoking by half (Aarø, 1977). As mentioned above, teachers represent another group which today have a particular low prevalence of smoking. In the Oslo study and others, the conclu-

TAIWAN PER CAPITA CONSUMPTION

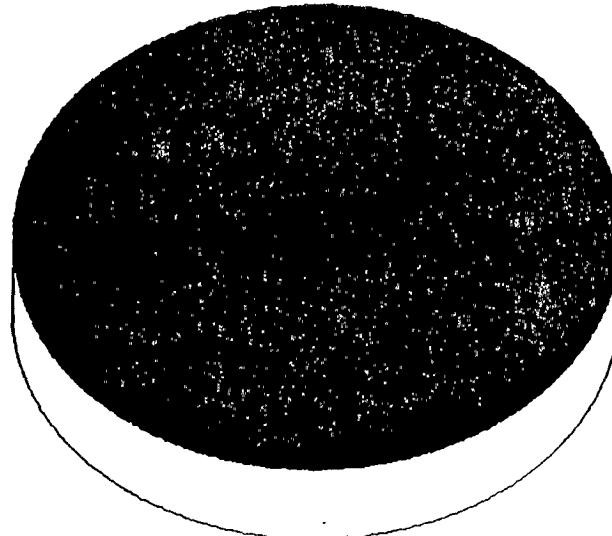


Consumption: US Dept of Agriculture
Pop: 1980-88 Taiwan Statistical Data Book
1989-91 Bulletin of Statistics ROC

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THAILAND
1990 MARKET SHARE - U.S. BRANDS

OTHER BRANDS
100%



* Cigarettes using trademarks of U.S. brands manufactured in the U.S.

Source: Thailand Industry Data Exchange

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8/

Over 50% were troubled by passive smoking and most of those who went out to work supported smoking restrictions. However, in spite of recommendations to the contrary and the opinion of the workforce, smoking was still allowed in one fifth of work places where people worked with others. Restricting smoking to only certain areas of the work place seemed to have slightly increased. Over half of those who replied, i.e. including some of the smokers, indicated that in their opinion there should be more non-smoking areas than at present.

Smoking is an ethical problem, as in addition to those who are unwillingly subjected to tobacco smoke at their work place, passive smokers also include the embryos of smoking pregnant mothers and the children of those parents who smoke at home. Several studies have shown that passive smoking is clearly harmful to health and that it may also be a contributory factor in the development of more serious diseases.

The danger is either not perceived or else it is defied

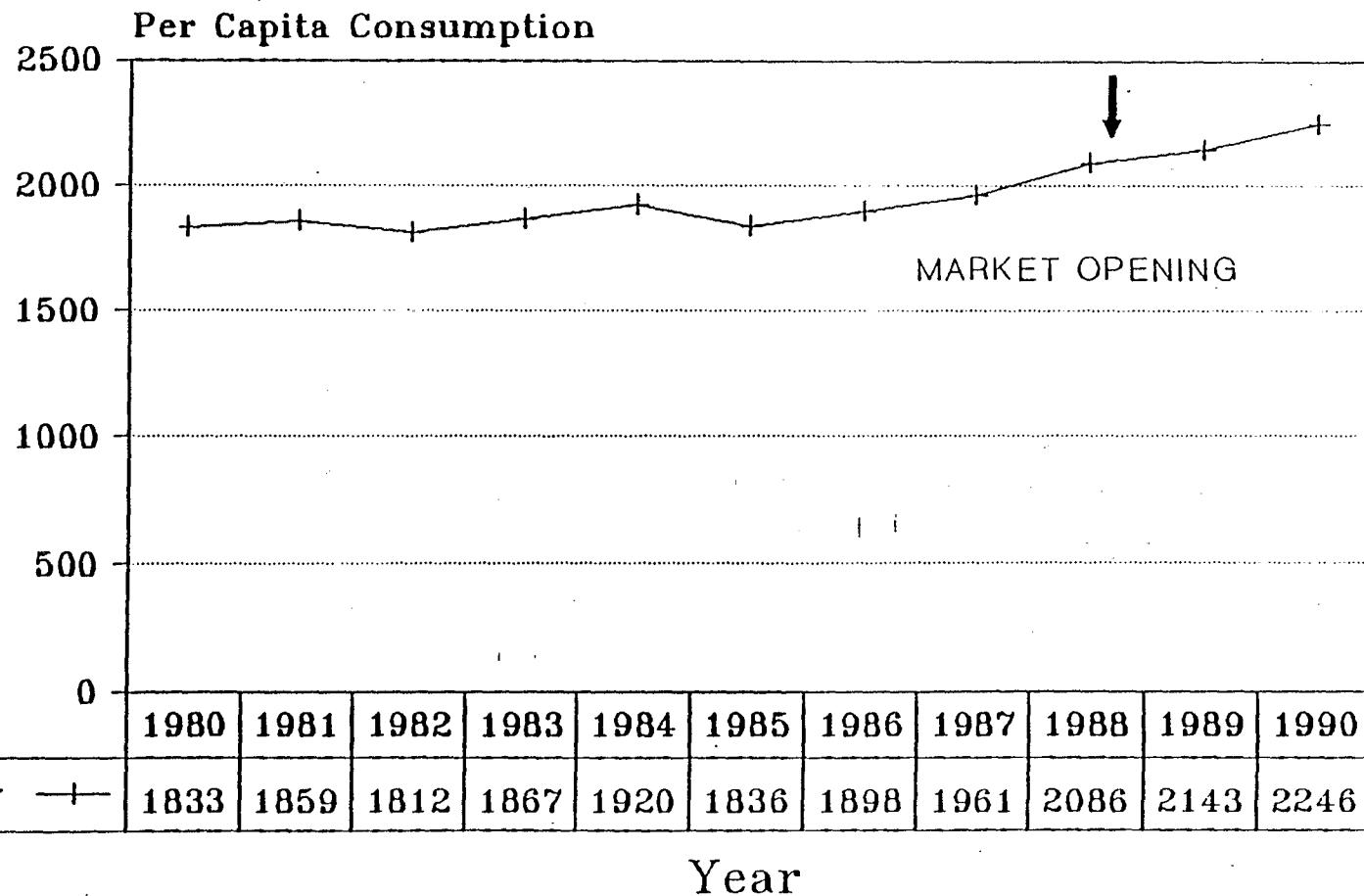
The dangers of smoking are well-known, but still they are defied. Smoking has not decreased, although widespread information campaigns have been conducted and people are well informed. There are probably several reasons why people have not changed their behaviour: the adoption of a new healthy way of life may be associated with difficulties, and is regarded as being too rigorous, as people do not always have the willpower that is required to carry through any change. In addition, any health guidance may have been given badly or in a moralising manner (23).

People may also experience smoking as a relatively small problem in the midst of the various threatening pollutants and allergens which today are to be found everywhere. As such a large number of people smoke, and as smoking is, at least partly, an accepted social habit, its real dangers are not properly realised.

Health education in schools has fundamentally decreased during the 1980's. The quantity and quality of school health education should be re-assessed. Health education is less often covered by special tuition and the tendency has been to integrate it with some other subject. As a result no particular group of teachers is held responsible for teaching the subject of health education, and therefore it is often completely forgotten, (Pirkko Holopainen, Finnish National Board of Schools, personal memorandum, November 1990). According to a study of the habits of the young regarding personal health, the supervision of non-smoking regulations in schools has become more lax, and even children under 16 years of age regularly buy cigarettes at kiosks (24).

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KOREA PER CAPITA CONSUMPTION



Consumption: US Dept of Agriculture
Population: United Nations

2503018054

April 30, 1992

U.S. CIGARETTE IMPORTS IN PACIFIC RIM COUNTRIES

SMALL PLAYERS IN BIG MARKETS

Antismoking advocates portray U.S. cigarette manufacturers as looming giants in seven Pacific Rim countries—Hong Kong, Indonesia, Japan, Malaysia, Korea, Taiwan and Thailand. The facts are these:

- *Tobacco is an established industry in each of the seven Pacific Rim countries, independent of foreign manufacturers.*

As the attached tables show, tobacco farming—leaf production—is a mainstay of the economies of each of these countries, with the exception of Hong Kong. Just as in the United States, leaf exports are a source of substantial revenue to most of these countries. In Thailand and South Korea, leaf exports dwarf leaf imports. Thailand exports nearly one-half of its leaf production. South Korea exports nearly one-third of its leaf production.

According to the most recent available published sources, each country derives substantial cigarette and other tobacco product excise tax revenues (in U.S. dollars)—

Hong Kong:	\$ 229.7 million in 1991
Indonesia:	\$ 752.0 million in 1989
Japan:	\$ 12,740.0 million in 1989
Malaysia:	\$ 600.0 million in 1985
South Korea:	\$ 2,000.0 million in 1990
Taiwan:	\$ 442.0 million in 1987
Thailand:	\$ 480.0 million in 1989

- *State tobacco monopolies, wholly owned by the government, dominate the markets in Japan, Taiwan, South Korea and Thailand.*

In 1990, according to the sources cited in the attached pie charts, Japan Tobacco held approximately 83.3 percent of the Japanese market, the Taiwan monopoly held 85.9 percent of the Taiwanese market, the South Korean monopoly held 95.6 percent of the South Korean market, and the Thailand monopoly held virtually 100 percent of the market before the ban on imports was relaxed in November 1991.

The Thailand Tobacco Monopoly increased its cigarette production by nearly 30 percent between 1984 and 1989. *World Cigarette Market: The 1990 Inter-*

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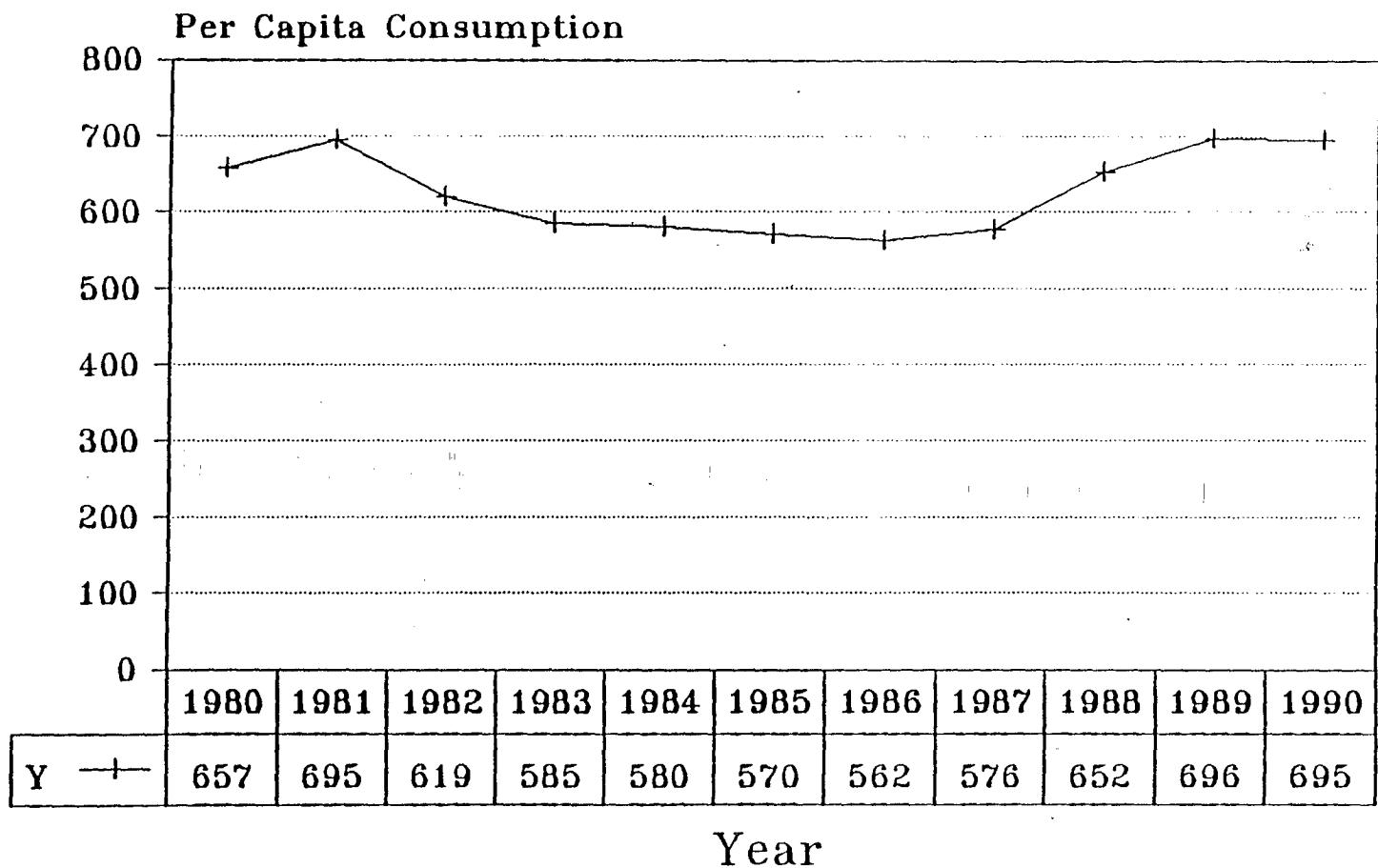
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THAILAND PER CAPITA CONSUMPTION



Consumption: US Dept of Agriculture
Population: United Nations

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(Nilsen, 1967). The last was limited to schoolchildren in Oslo. Children and youth in the age groups 13–18 years were included in the first study, 11–19 years in the second, and 10–19 years in the third.

The 1957 study showed a distinct difference in the smoking habits of boys and girls. There was both a higher percentage of daily smokers and a higher total percentage of smokers among the boys than among the girls. This difference was not as apparent in the later studies. However, in 1967 there still was a higher prevalence of smoking among boys than among girls.

Otherwise, the study from 1967 disclosed that smoking occurred among pupils down to the age of 10 years. One per cent of boys and girls were daily smokers, while 1/5 of the boys and 1/10 of the girls smoked occasionally at this age. When it comes to changes in smoking habits in the period 1957–1967 (Oslo), a distinct increase in the percentage of daily smokers in the age groups 13–15 years was observed.

In a series of annual studies of drug habits among adolescents in Oslo (Irgens-Jensen & Rud, 1977) for the entire period 1972–1976 a higher percentage of daily smokers was found among girls than among boys aged 12–21 years. These annual studies among adolescents in Oslo also showed an increase in smoking up to 1974 when 42% of the boys and 46% of the girls in the relevant age groups stated that they smoked daily. In 1976 the percentage of daily smokers among adolescents in the same age group had dropped to 35% for boys and 39% for girls. The same trend was observed among boys in Bergen, while girls in Bergen only showed a small reduction in smoking during the last five years. (Irgens-Jensen, 1980).

Swedish studies from 1971, 1976 and 1977 among youth aged 16 years showed a decrease in smoking among boys from 41% in 1971, through 27% in 1976 to 25% in 1977. For girls the figures were 47% in 1971 and 40% in 1976 and in 1977. Smoking seems to be on the decline among both boys and girls in this age group, but the reduction is greatest for the boys. In all three studies there was a higher percentage of smokers among the girls (Lukács, 1978). In a comparative study of the years 1971–1974 (Hibell & Jonsson, 1977) the conclusion is more or less the same. In the period covered by the study there was a distinct reduction in the percentage of smokers among boys, while the proportion of girls who smoked remained the same for the whole period.

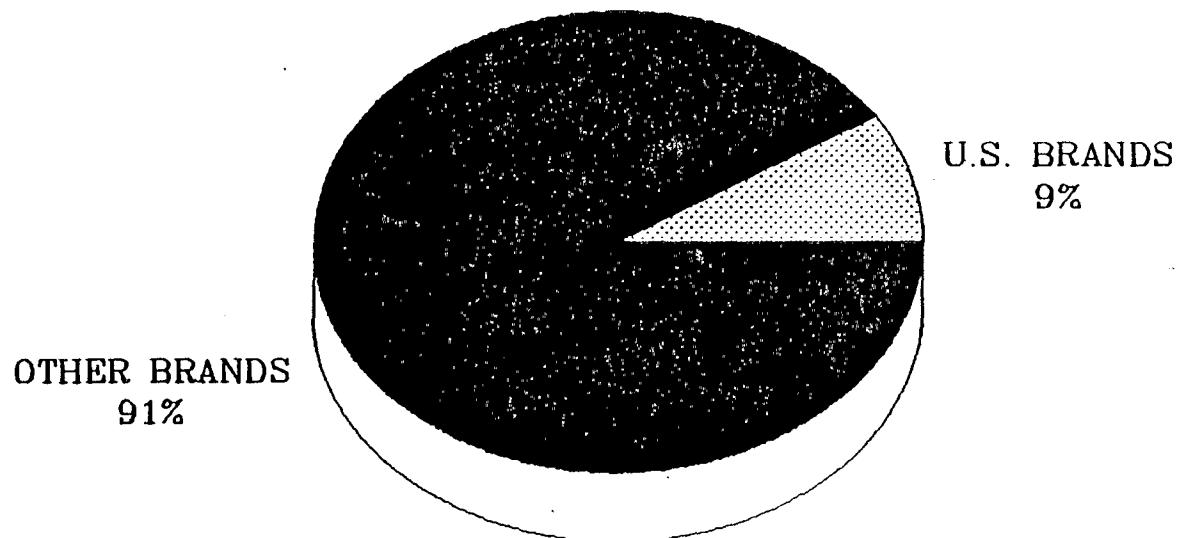
Experimenting with smoking often begins at an early age. A Danish study (Vilstrup, 1973) showed that half of the girls and two-thirds of the boys had tried to smoke before they were 10 years old. Almost none of this age group smoked daily. The same study concluded further that the greatest increase in the percentage of smokers among both boys and girls occurs in the age groups 12–15 years. Already at the age of 14 there were found to be more than 40% daily smokers among Danish schoolchildren. While previous studies in Denmark have shown that smoking was more prevalent among boys, the trend in the 1970s was towards smaller differences in smoking habits between boys and girls.

A Finnish study from 1973 (Rimpelä et al., 1977) reports on smoking among adolescents in the age groups 14, 16 and 18 years. Among the boys the percentage of daily smokers increased from 17% at 14 years, through 39% at 16 years to 44% at age 18. The corresponding values for the girls were 21%, 33% and 41%, respectively. At the beginning of the 1960s there was far less smoking than there is today among young people in Finland, and furthermore, the girls smoked far less than the boys. The increase in the percentage of daily smokers has also been considerably greater among the girls than among the boys. According to Rimpelä's study from 1973, smoking is even more prevalent among girls than among boys at the age of 14.

In 1974 a study was conducted on smoking among children and adolescents in the age groups 9–17 years in Reykjavik, Iceland (Sigurdsson, 1975). In the group aged 9 years, 5% of the boys and 3% of the girls stated that they smoked. A rapid increase in smoking was registered in the age groups 12–13 years, and in the age groups 13–17 years there was more smoking among the girls than among the boys. Among those aged 17, 47% of the boys and 62% of the girls smoked daily. If one compares the Icelandic study from 1974 with a study from 1959, one finds that smoking among girls has increased two to threefold.

British studies on smoking among schoolchildren are summarized in a report from the Social Science Research Council and the Medical Research Council (Bewley et al., 1976). In two studies the average age when the children started to smoke was 10–11 years. All the larger British studies have shown more smoking among boys than among girls. In a study among schoolboys in England and Wales,

TAIWAN
1990 MARKET SHARE - U.S. BRANDS*

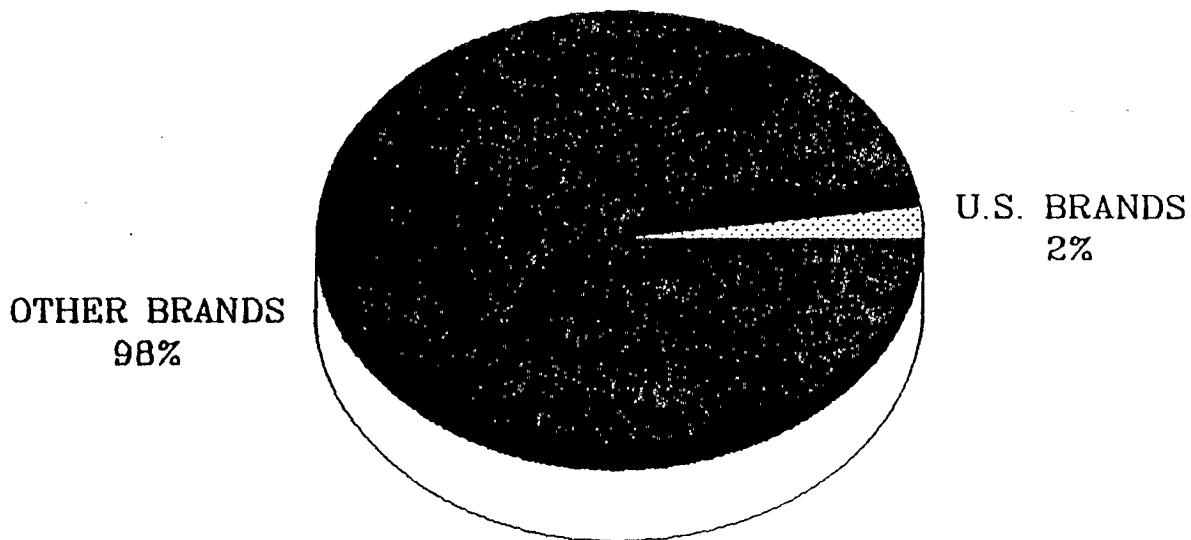


* Cigarettes using trademarks of U.S. brands manufactured In the U.S.

Source: Taiwan Customs Department

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KOREA
1990 MARKET SHARE - U.S. BRANDS



* Cigarettes using trademarks of U.S. brands manufactured in the U.S.

Source: Korean Industry Data Exchange

2503018055

In Malaysia, 25 percent market share
In Hong Kong, 74 percent market share

- Cigarette and leaf tobacco exports make a major contribution to the U.S. trade balance. In fact, tobacco is one of the few American industrial categories that managed to maintain and increase its foreign trade surplus during the 1980's and 1990's.

In 1991, cigarette and leaf exports produced a \$4.8 billion net trade surplus. The industry's FY1991 trade balance accounted for 37.4 percent of the nation's overall agricultural trade surplus. Between 1981 and 1991, while the U.S. trade deficit ballooned from \$27.5 billion to \$152.1 billion (in 1987) and stood at \$66.3 billion in 1991, tobacco exports increased by more than \$2.6 billion. [Source: Tobacco Merchants Association *Tobacco Trade Barometer*, Bureau of Census, Foreign Trade Division]

Tobacco exports help to reduce the U.S. trade deficit with the seven Pacific Rim countries. In 1991, as in other recent years, those deficits were substantial and would have been even greater—but for the U.S. tobacco industry.

1991 U.S. Trade Deficit (in U.S. dollars)

Hong Kong:	\$ 1.1 billion
Indonesia:	\$ 1.3 billion
Japan:	\$ 43.4 billion
Malaysia:	\$ 2.2 billion
South Korea:	\$ 1.5 billion
Taiwan:	\$ 7.8 billion
Thailand:	\$ 2.4 billion

[Source: Office of U.S. Trade Representative, 1992 National Trade Estimate Report on Foreign Trade Barriers]

- *The introduction of U.S. cigarettes in Japan, Taiwan and South Korea has not caused increased smoking in those countries.* As the attached tables show, apart from normal fluctuations, cigarette consumption in Japan has not changed significantly in the last decade, even though U.S. cigarettes became widely available in 1987. In Taiwan and South Korea, total sales volumes were increasing before U.S. cigarettes became available and continued to increase after U.S. cigarettes became available. Indeed, the rate of increase slowed following the opening of these markets. In all three countries, all that occurred was a switch among consumers from domestic brands to U.S. brands. Even so, the domestic tobacco monopolies continued to dominate the markets.

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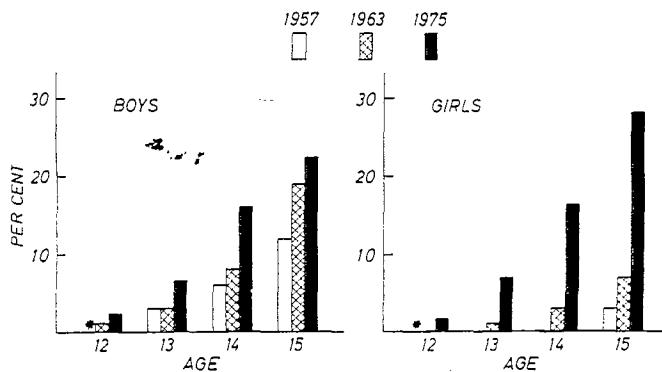


Fig. 2. Per cent daily smokers 1957, 1963 and 1975 by age and sex. (*No data on 12-year-old pupils for 1957.)

indicate a slight increase in the percentage of daily smokers among girls.

To sum up; the increase in daily smoking up to 1975 was greater for girls than for boys. The total percentage of smokers (daily + occasional) showed a decline among boys, while the girls increased their smoking irrespective of how smoking is defined. Studies from Oslo and Bergen have shown a reduction in the percentage of smokers among boys in both towns. Among girls, however, the reduction is significant only in Oslo. No reduction in daily smoking is found among boys and girls in rural districts.

Demographic variables

The geographical variation of the prevalence of smoking in Norway, boys and girls taken separately, is somewhat complicated showing no clear regional pattern. However, the most northern county (Finnmark) has the highest prevalence of smoking; as much as 31% of the boys and 46% of the girls were daily smokers at an age of 15. If occasional smokers are included, the figures are 75% and 74% respectively.

The geographical pattern becomes clearer if one

analyzes the difference between boys and girls based on the percentage of daily smokers. In this respect the greatest difference between girls and boys was found in the counties farthest to the east and the north. There is less difference in the counties to the south and west. The trend that girls have caught up with and surpassed the boys as regards smoking at the age of 15 seems to be less pronounced in the western and southernmost parts of the country. The same geographical variation is also known from political-cultural studies. Most of those counties where the girls' lead over the boys in smoking is smallest, are characterized by temperance and prohibition movements, religious attendance, as well as a distinctiveness in voting behaviour, and they have "constituted a bulwark for defence of Lutheran orthodoxy and pietistic fundamentation against the radicalizing and secularizing influence of the cities". (Rokkan, 1967). It is therefore hardly surprising that sex differences as regards smoking habits seem to be part of the cultural distinctiveness of the south and west. Thus social norms must be taken into account when smoking habits of the young are concerned.

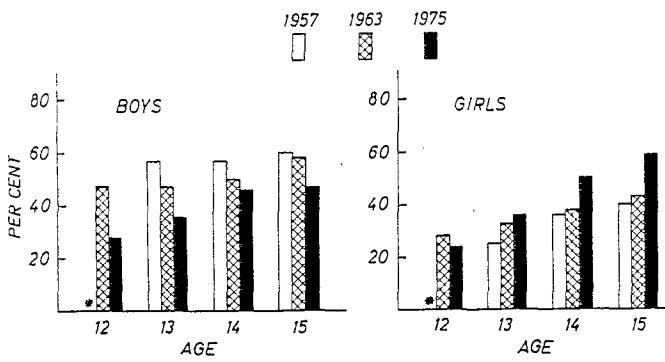
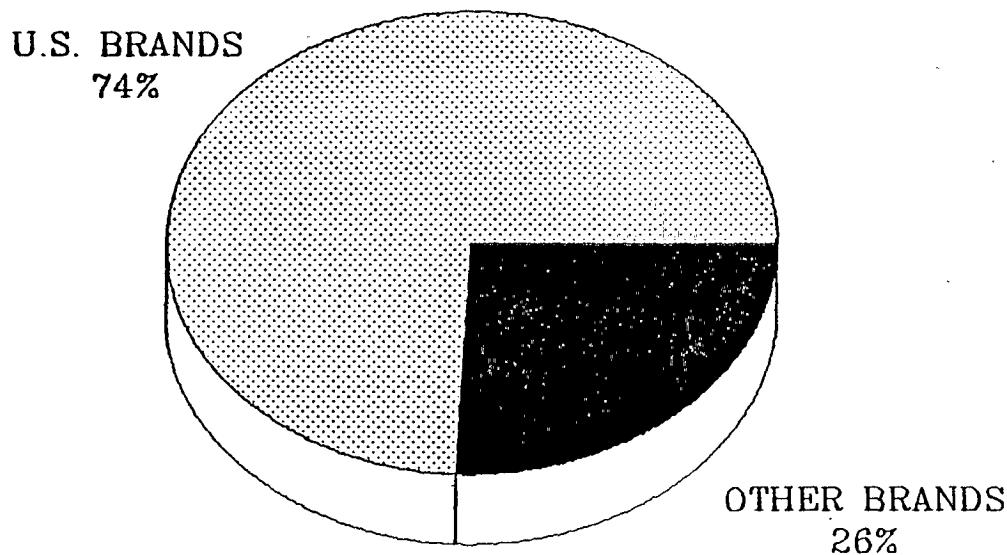


Fig. 3. Per cent daily + occasional smokers 1957, 1963 and 1975 by age and sex (*No data on 12-year-old pupils for 1975.)

HONG KONG 1990 MARKET SHARE - U.S. BRANDS*



* Cigarettes using trademarks of U.S. brands either manufactured in the U.S. or locally

Source: Hong Kong Tobacco Institute & Industry Data Exchange

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Translation from Finnish:

August 1991 Suomen Lääkärilehti, 46th year pp 721-724
(The Finnish Medical Gazette)

PUBLIC HEALTH SERVICE

Research on Attitudes Towards Smoking in Finland
by Meri Paavola, Jorma Tikkainen, Antero Heloma and Kaj Koskela

People's attitudes towards smoking in Finland have been studied over three consecutive years, from 1988 to 1990, from the results of interviews. Over 2000 people were interviewed and of them, a third of the men and one fifth of the women were smokers. During the period covered by this study, smoking increased amongst men below the age of 35. Many were well informed of the health hazards of tobacco, but only a few said that they had decreased their rate of smoking for that reason. 40% of those interviewed were subjected to tobacco smoke at their place of work, and over half of them suffered detrimental effects of one kind or another. In the interviews conducted in 1990, 90% of those who were in employment supported smoking restrictions at the work place.

It is estimated that smoking causes annually from 4000 to 6000 premature deaths in Finland. It is most likely that smoking is the most prominent, single cause for premature death and it is most often the cause of fatal lung cancer and cardial infarct (1). Maternal smoking during pregnancy incurs various risks (2-7). It has been found to increase the risk of miscarriage and perinatal mortality. Children born to mothers who smoke have a lower birth weight than the children of non-smoking mothers.

Passive smoking incurs several health hazards in addition to various symptoms of irritation (8-17). Research has shown that people who are subjected to passive tobacco smoke have, on average, a 1.3 times greater risk of developing lung cancer than those who are not subjected to passive smoking. One quarter of all lung cancer suffered by non-smokers can thus be allocated to passive smoking. Symptoms of respiratory epithelium and eye irritation occur particularly in people with respiratory allergies, asthma and angina pectoris (18).

Children who are exposed to tobacco smoke suffer from an increased risk of contracting upper respiratory tract infections (18,19). Susceptibility to infections amongst children under the age of 7 years who are subjected to tobacco smoke, is from 2 to 3 times greater than amongst those who are not thus exposed. Maternal passive smoking during pregnancy may also decrease a child's birth weight.

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TOBACCO IN DEVELOPING COUNTRIES:
AN ECONOMIC APPROACH TO POLICY FORMULATION

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March 1988
S-88-19

2503018065

DISCUSSION PAPERS are reports of work in progress in the fields of smoking behavior, policy, and disease epidemiology. The papers have not been published and have received limited review. The goal of the Discussion Paper Series is to provide investigators with an avenue for discussion of work prior to publication.

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The views expressed in this paper are those of the authors and do not necessarily reflect those of the Institute for the Study of Smoking Behavior and Policy or Harvard University.

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2503018065A

Tobacco advertising in Sweden

Sweden is one of the few Nordic countries where tobacco advertising not yet is completely prohibited. But there are forces at work aiming to pass a total ban on the advertising of tobacco products following the legislation in Finland, Norway and Iceland where advertising is prohibited.

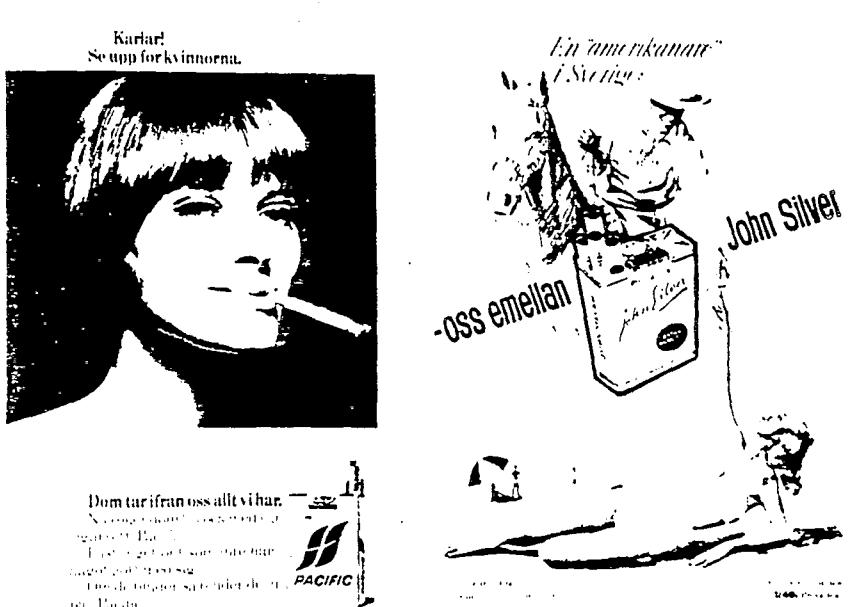
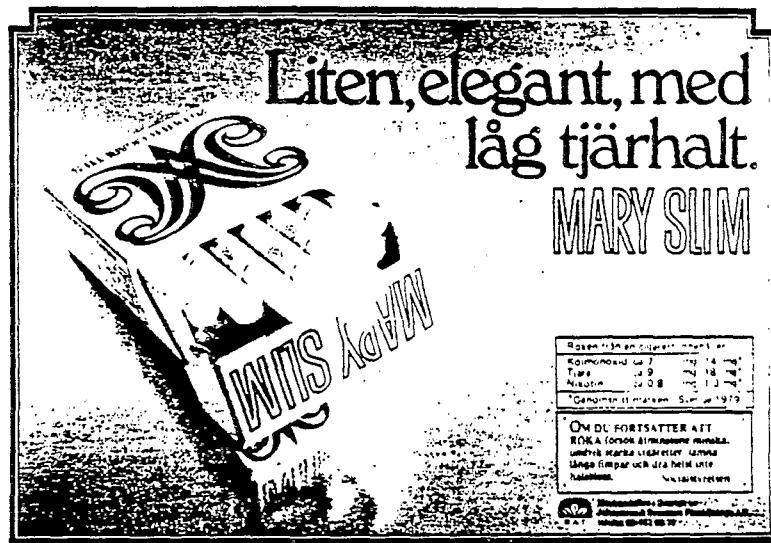
In 1964 the first restrictions on tobacco advertising were imposed. The main objective was to prevent young people from being influenced to start smoking. The restrictions have been sharpened during the years and in 1975 an agreement regarding advertising rules was established between the tobacco industry and the National Board of Consumer Affairs (Konsumentverket), which is the governmental authority responsible for marketing practices.

Legislation

In 1979 specific legislation on tobacco advertising was introduced. In brief, this law states that the marketing of tobacco products has to be carried out with the utmost moderation. It is specially indicated that advertising or marketing activities must not be intrusive, be proselytizing or encourage the use of tobacco. This act covers also provisions about the contents of the advertisements in newspapers and periodicals. A health warning and declaration of contents have to be fully visible in the advertisement.

Marketing principles

In 1986 the National Board of Consumer Affairs and the National Board of Health and Welfare presented new principles for the marketing of tobacco products. These regulations are based on the marketing law from 1979 but they are extended and contain more restrictions as well as covering all kinds of tobacco products including snuff and chewing-tobacco.



During the 50's and 60's cigarette advertising focused on women.

MALAYSIA

Tobacco Leaf Production (in metric tons)							
	1984	1985	1986	1987	1988	1989	1990
Leaf Production	6532	8534	12320	10078	6730	12485	9892
Leaf Exports	1	1	10	44	227	16	9
Leaf Imports	4212	5412	5198	3386	3048	3502	4463

SOUTH KOREA

Tobacco Leaf Production (in metric tons)							
	1984	1985	1986	1987	1988	1989	1990
Leaf Production	63009	51330	55641	50725	65697	70579	59591
Leaf Exports	30009	23283	24423	22325	26916	20268	18367
Leaf Imports	2800	837	3884	3371	5685	6471	7076

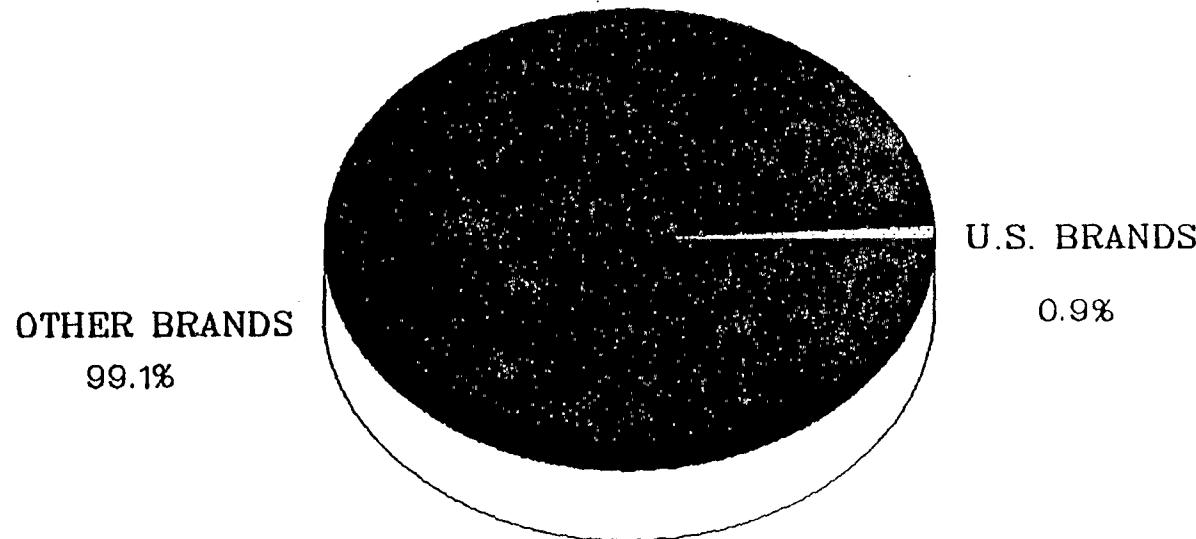
TAIWAN

Tobacco Leaf Production (in metric tons)							
	1984	1985	1986	1987	1988	1989	1990
Leaf Production	19766	18190	21752	21677	19258	17653	17788
Leaf Exports	1629	5678	986	1784	17294	4115	2504
Leaf Imports	11519	15730	12882	7568	11449	22834	13678

Source: Foreign Agricultural Service-U.S. Department of Agriculture

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INDONESIA
1990 MARKET SHARE - U.S. BRANDS

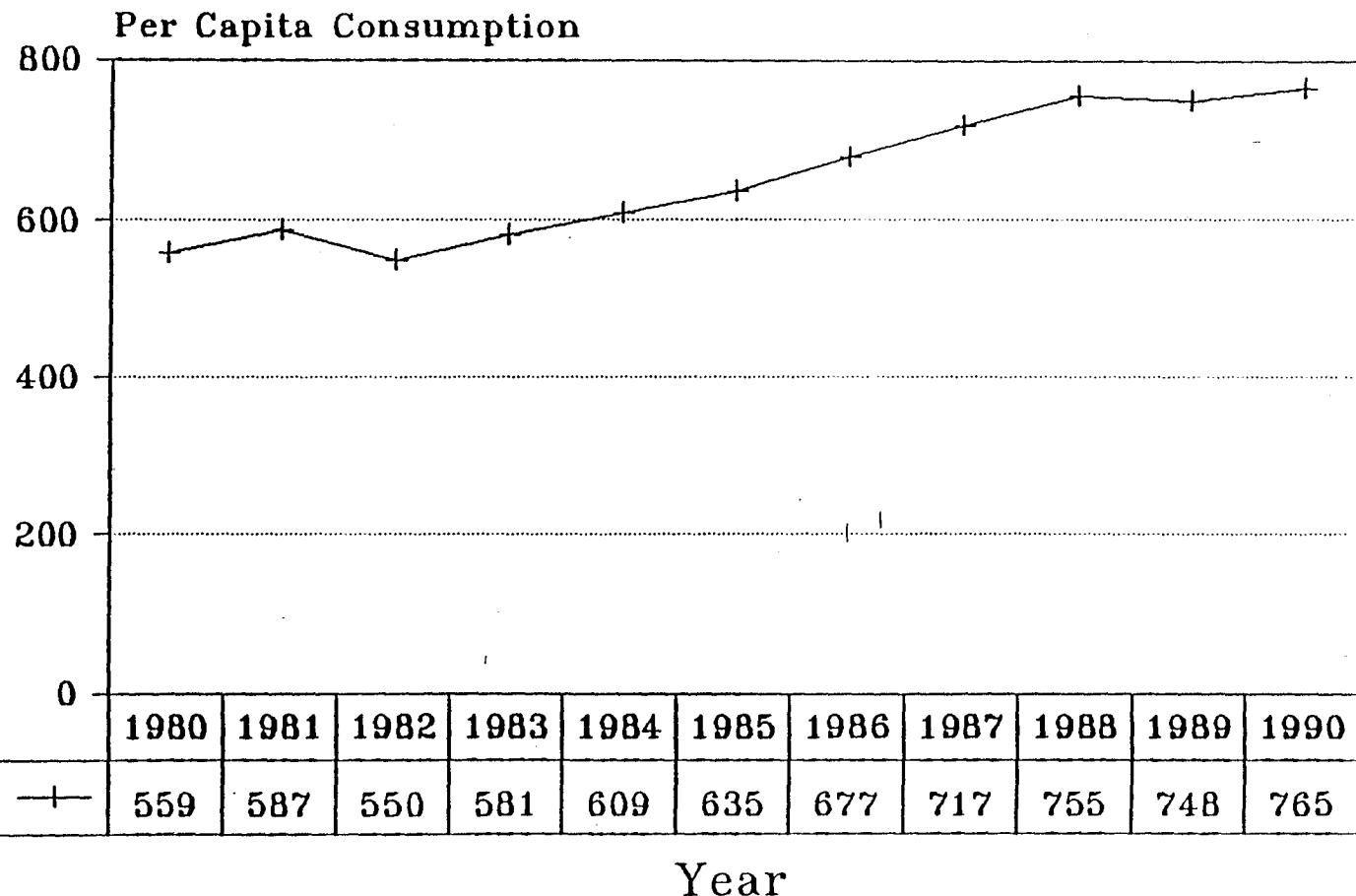


* Cigarettes using trademarks of U.S. brands either manufactured in the U.S. or locally

Source: Indonesian Government

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INDONESIA PER CAPITA CONSUMPTION



Consumption: US Dept of Agriculture
Population: United Nations

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HONG KONG

Tobacco Leaf Production (in metric tons)							
	1984	1985	1986	1987	1988	1989	1990
Leaf Production	0	0	0	0	0	0	0
Leaf Exports (1)	6531	4228	1147	309	1252	1880	3473
Leaf Imports	16849	17039	11790	15327	21723	20110	34610

Note (1) Re-Exported Leaf.

INDONESIA

Tobacco Leaf Production (in metric tons)							
	1984	1985	1986	1987	1988	1989	1990
Leaf Production	103182	122814	130995	130917	117108	124921	131343
Leaf Exports	19317	19792	23092	18694	18240	17722	17402
Leaf Imports	14989	10212	9825	10762	10845	13631	26647

JAPAN

Tobacco Leaf Production (in metric tons)							
	1984	1985	1986	1987	1988	1989	1990
Leaf Production	121925	104588	106396	93961	77213	66957	72487
Leaf Exports	3215	3200	12000	18960	2500	1500	0
Leaf Imports	69700	70000	66300	75985	68300	64000	81400

Source: Foreign Agricultural Service-U.S. Department of Agriculture

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TAULUKKO 4. Kodin ulkopuolella työssä käyvien miesten ja naisten altistuminen päivittäin työpaikan tupakansavulle (%) vuonna 1990.

Päivittäinen altistusaika	Miehet (n = 651)	Naiset (n = 587)	Keskimäärin
Yli 5 tuntia	20	7	14
1–5 tuntia	23	8	16
Alle 1 tunti	12	7	10
Ei lainkaan	42	77	58
Ei osaa sanoa	3	1	2
Yhteensä	100	100	100

TAULUKKO 5. Tupakoinnin salliminen (%) kodin ulkopuolella olevassa työtilassa, jossa vastaajat työskentelevät muiden kanssa vuosina 1988, 1989 ja 1990.

Tupakointi työtilassa	1988 (n = 986)	1989 (n = 1078)	1990 (n = 981)
Sallittua kaikkialla	27	26	23
Sallittua tiettyissä osissa	30	34	36
Kokonaan kiellettyä	41	37	37
Ei osaa sanoa	2	3	4
Yhteensä	100	100	100

TAULUKKO 6. Vastaajien kokema haitta (%) vuosina 1988, 1989 ja 1990 heidän työskennellessään tupakansavuisessa tilassa.

Haitta	1988 (n = 373)	1989 (n = 452)	1990 (n = 487)
Ei aiheuta mitään haittaa	48	45	45
Haittaa jonkin verran	27	27	31
Häiritsee työskentelyä	17	16	14
Aihettua oireita	7	11	10
Ei osaa sanoa	1	1	0
Yhteensä	100	100	100

TAULUKKO 7. Ansiotyössä kodin ulkopuolella käyvien miesten ja naisten mielipide (%) tupakoinnin rajoittamisesta työpaikalla vuosina 1988, 1989 ja 1990.

Tupakointi työpaikalla	Miehet			Naiset		
	1988 (593)	1989 (661)	1990 (651)	1988 (620)	1989 (617)	1990 (587)
Sallittava rajoituksetta	10	13	11	3	2	2
Rajoitettava osittain tai kokonaan	86	83	84	95	96	96
Ei osaa sanoa	4	4	5	2	2	2
Yhteensä	100	100	100	100	100	100

lisääntymisen Suomessa 1987–89 (21). Tänä aikana savukkeiden ja sakanien kulutus kasvoi, mutta piippu- ja savuketupakan kulutus väheni.

Nuorten miesten tupakointi näytti lisääntyneen eniten kahdessa vuodesa. Erityisesti nuorten tupakointi ja sen lisääntymisen on hälyttäväää, sillä nuorilla on vielä edessään pitkä odottavissa oleva elinkä. Tällöin

tupakoinnin aiheuttamat haitat ehtivät ilmetä jo työlässä erilaisina terveyshaittoina, etenkin tupakoinnin jatkussa.

Tupakansavulle altistuminen edelleen yleistä

Tupakkalaissa (22) on rajoituksia tu-

pakoinnille esimerkiksi julkisissa tiloissa. Työpaikalla tupakointi laki ei puutu, vaikka joillakin työpaikoilla altistuminen tupakansavulle sekä yksinään, mutta etenkin muiden altisteiden (esim. asbesti) kanssa aiheuttaa merkittäväri terveysriskin. Lääkintöhallitus on antanut valtakunnalliset suositukset ja työsuojeluhallitus ohjeet työpaikatupakoinnin rajoittamisesta. Niiden tavoiteena on, ettei kuukaan joudu työpaikoilla vastoin tahoaan alttiiksi tupakansavun aiheuttamalle ärsytykselle tai terveyshaitoille.

Kansanterveyslaitoksen tutkimusten (20) mukaan työpaikoilla tupakansavulle altistuminen oli hieman vähentynyt vuodesta 1988 (25 %) vuoteen 1990 (22 %). Tämän tutkimuksen mukaan se oli vuonna 1990 erityisesti miesten keskuudessa edelleen yleistä.

Altistuminen haittasi yli 50 %:a, ja suurin osa työssä kävijöistä kannattiin tupakoinnin rajoittamista. Suosituksista ja työntekijöiden mielipiteistä huolimatta tupakointi oli sallittua viidesosassa työtiloista, joissa vastaajat työskentelivät muiden kanssa. Tupakoinnin rajoittaminen työpaikalla vain määrätyihin osiin näytti kuitenkin hieman yleistyneen. Yli puolet vastaajista, eli myös osa tupakoitsijoista, oli sitä mieltä, että savuttomia tiloja yleensä pitäisi olla nykyisesti enemmän.

Tupakointi on eettinen ongelma, sillä työpaikoilla tahtomattaan tupakansavulle altistuvien lisäksi altistujina ovat mm. raskaana olevien tupakoivien äitiensä sikiöt ja kotona polttavien vanhempien lapset. Passiivisen tupakoinnin on useissa tutkimuksissa osoitettu olevan selvä terveyshaitta ja se saattaa edistää myös vakavampien sairauksien kehitymistä.

Vaaraa ei tiedosteta tai sitä uhmataan

Tupakoinnin vaarat tiedetään, mutta silti niitä uhmataan. Laajoista tiedotuskampanjoista ja hyvistä tiedoista huolimatta tupakointi ei siis ole vähentynyt. Käyttäytymisen muuttumattomuuteen on arvioitu olevan useita syitä: uuden terveyystavan omaksumisesta voi koitua kohtuuttomaan pidettyjä haittoja ja ihmisenä ei aina ole käytettävissään muutokseen tarvittavia voimavarajoja. Lisäksi ter-

In 1990 55% of men and 22% of women were subjected to tobacco smoke at work (Table 4). Smoking was allowed in 23% of work places, where the interviewees worked alongside other people (Table 5). Tobacco smoke caused symptoms in 10% of those who had to work in tobacco smoke (Table 6).

Prohibiting smoking had been discussed in 24% of work places in 1990. Most were of the opinion that smoking at the work place should be limited to certain areas or only permitted at certain times (Table 7). Women supported non-smoking regulations in more cases than men.

In 1990 59% of those interviewed had followed the current product liability case against tobacco manufacturers, which was the first ever court case on this subject. The younger interviewees had followed it least of all. Media discussions on smoking were perceived to be necessary by 86%, and 64% thought that there should be more non-smoking areas, for example in restaurants, hotels and cafes. More non-smoking areas were mostly required by women under 35.

SUMMARY

Before making generalisations on the basis of this study, the factors which affect its overall credibility must be observed. Because this research, based on interviews with 2000 people, represents the entire population of Finland, the figures thus gained include slight sample variations. The sampling method could be compared with the random method, and furthermore the sample was not limited to those who had a telephone, because those who were not on the telephone received a personal visit.

The amount of, and reasons for, non-replies were approximately the same over all three years, and thus this does not make the comparison unreliable. However, the credibility of result comparisons become weaker when the results are observed by groups, as this decreases the sample size, and therefore no definite assumptions can be made on the basis of yearly variations of 1 - 2 % per group.

Telephone interviews as a research method are always inaccurate to some extent, particularly where you have 200 interviewers. However, the credibility of this study was increased by the fact that only trained interviewers were used. Certain questions, which were used as indicators, and percentage and cross-reference tables, drawn on the basis of the replies collected, give a general picture of smoking habits, and of attitudes towards smoking, and of any changes in this area during the years 1988 -1990, and these results can be used as a guideline in preventive health education.

2503018020

Lowering the rate of smoking is one of the most important issues of preventive medicine. Attitudes towards smoking and non-smoking regulations were studied in Finland in 1988-1990 by interviewing nearly 6000 people by telephone. This research was jointly conducted by the Finnish National Board of Health (Lääkintöhallitus) and the Statistical Centre (Tilastokeskus). Some of the questions put to the people being interviewed were the same each year, and so changes in attitudes could be studied on the basis of these questions.

RESEARCH MATERIAL AND METHODS

This study was conducted amongst Finnish people aged from 15 to 64. Each year (1988, 1989, 1990) approximately 2300 people were selected from the Population Central Register for interviews, using a representative sampling method. The most important background factors (sex, age, mother tongue being Finnish or Swedish, place of residence) were observed in the selection in such a way that these were represented in this study in the same proportion as in the Finnish population as a whole. Those who had died, lived abroad or were retained in institutions were omitted from the sample. Reply percentages were 85, 86 and 83. The reason for no reply at all was mainly that the person could not be contacted, refused to be interviewed or was ill.

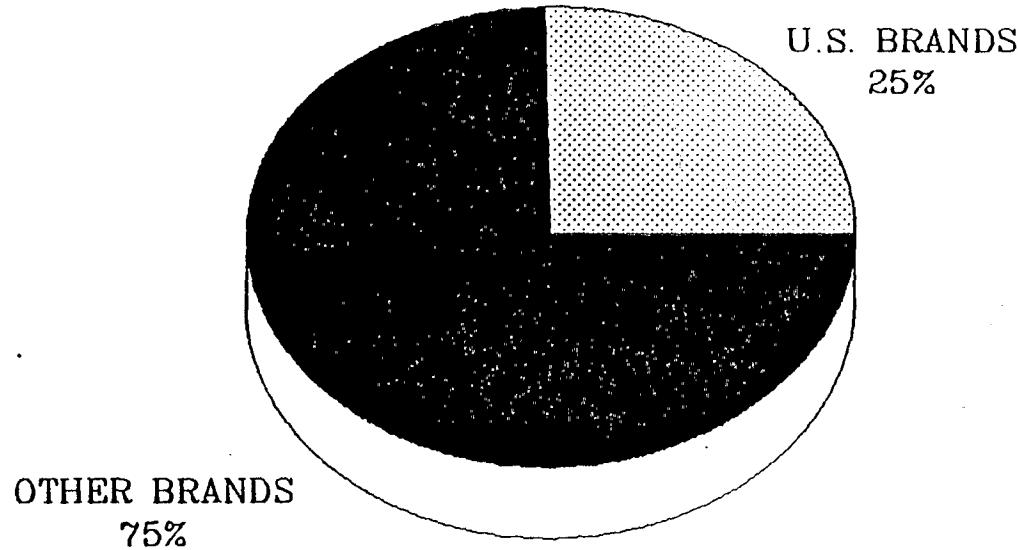
200 interviewers from the Statistical Centre (Tilastokeskus) were involved, and they conducted 93% of the interviews by telephone and the remainder at the interviewee's home using a structured and pre-tested questionnaire. For some questions, a choice of answers was offered the interviewee whilst for others the subject was allowed to answer it in his own way. The material was then cross-referenced on the basis of age and sex.

A 95% credence margin is descriptive of the sample variation; it indicates by a 95% probability within which range the percentage share of any answer would lie, if everybody between the ages of 15 and 64 in Finland had been interviewed. For example, if 30% of the 2000 interviewed during this study stated that they smoked, this would mean that the proportion of smokers of the whole population of Finland would be $30\% \pm 2\%$, i.e. 28-32%. However, the number of people interviewed within this study varies on the basis of the questions asked, because some of the questions were only made to people who smoke daily, of which there were approximately 500. This created a larger credence margin and therefore the 30% support of some reply alternatives indicated a support of $30\% \pm 4\%$, i.e. 26-34%, if applied to the whole population.

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MALAYSIA

1990 MARKET SHARE - U.S. BRANDS



- Cigarettes using trademarks of U.S. brands either manufactured in the U.S. or locally
- Source: Malaysian Industry Data Exchange

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205

Table I. Smoking habits by age and sex

Age	Per cent daily smokers	Per cent occasional smokers	Per cent nonsmokers who have tried to smoke	Per cent never smoked	Total	
					%	N
<i>Boys</i>						
12	2.3	25.6	44.3	27.8	100.0	880
13	6.6	28.7	44.7	20.0	100.0	883
14	16.4	29.2	39.8	14.6	100.0	927
15	22.5	24.0	40.0	13.5	100.0	839
<i>Girls</i>						
12	1.5	22.0	36.6	39.9	100.0	908
13	7.0	28.9	38.6	25.4	99.9	857
14	16.5	34.2	32.3	17.1	100.1	855
15	28.3	30.3	29.2	12.3	100.1	789

- instruction to the teachers who were to be responsible for collecting the data
- questionnaires for the pupils, and
- a report form where, among other things, the local results from the schools as well as demographical information were to be filled in by the headmaster/headmistress.

The pupils' questionnaire contained questions about their smoking habits and about the smoking habits of their parents, older brothers, sisters, and friends. The pupils were also asked whether their parents had given them permission to smoke, whether they knew the age-limit for purchase of tobacco in Norway (16 years), and about future smoking plans.

Response rate

The study was conducted in 2824 schools in November 1975. Schools comprising 229 500 or 94% of the population participated. Due to absence from school the final data yielded information from 213 600 or 88% of the population. Among the schools not participating was a predominance of small schools which stated that they would have difficulty in maintaining anonymity during collection of data.

RESULTS

Smoking habits in different age-groups

There is an acceptable correspondence between the results from the school reports and the results based on the 6 968 replies from pupils born on the sixth of each month. For certain age-groups, for boys and girls alike, the data from the sample shows more smoking than what appears in the school reports. For other age groups, the lowest percentage of smokers is found in the sample. Disagreement is greatest for 15-year-old girls, where the percentage

of daily smokers is 31.6% according to the school reports, and 28.1% according to the sample data.

Since more detailed information about smoking habits has been collected from pupils in the sample, the results on smoking habits in the different age groups is based on replies from the sample (Table I and Fig. 1).

For the age groups included in the study the prevalence of smoking increased markedly with age for both boys and girls. In the age group 12 years, the percentage of daily smokers is about 2% for both sexes, increasing to 7% for the group aged 13, and 16–17% for those aged 14. In the oldest group aged 15 there is a difference in the smoking habits of girls and boys: as many as 28% of the girls smoke daily as against 23% for the boys. ($\chi^2=6.78$, $df=1$, $p<0.01$).

The percentage for the 12-year-olds who stated

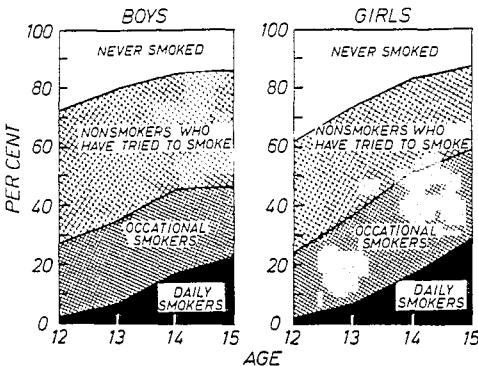


Fig. 1. Smoking habits by age and sex.

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Even the Public Health Service seems to provide only a limited amount of anti-smoking, health education. According to the study conducted by the Finnish National Health Institute (19), doctors have paid only slight attention to educating their patients in the dangers connected with smoking. Only about one fifth of those who smoked daily had been encouraged by their doctors to stop smoking. The number of people who had been told by their doctors to stop smoking remained basically unchanged throughout the 1980's.

According to the study by Launis (25), General Practitioners at Health Centres gave little, if any, health education to women who smoked and were on the Pill, or to smoking, respiratory tract infected, patients. It can only be guessed at how little attention is paid to the smoking habits of those patients whose symptoms or illness does not have such clear links with smoking.

Better planning for anti-smoking policies

The prohibition of tobacco advertising has led to increased hidden advertising, for example at sports events. According to research on the habits and attitudes of the young, towards their personal health (26), over half of all the young people in Finland had seen tobacco advertisements during the previous month. This has probably helped the increase in smoking among young people, which is also supported by the fact that according to the experiences of the young, the various cigarette brands are smoked by young people in the same ratio as that in which they are advertised.

Pekurinen states (27) that increases in the price of cigarettes would seem to be the most effective single method of decreasing smoking and the resultant health problems caused by smoking. The prices of all tobacco products should be consumer index-linked, but the consumers' buying power should also be taken into account. The best way of securing a steady decrease in the total consumption of tobacco products would be a pricing policy which would support health education.

Smoking increased in Finland until 1976, when the consumption of tobacco products, and smoking among young people, started to fall. However, in the mid 1980's the figures once more started to rise, and on the basis of the situation of the early 1990's, smoking does not appear to be decreasing at the moment. Therefore a more health orientated tobacco product policy should be developed now, based on better, and more thoroughly thought-out, planning.

2503018024

Preliminary testing

provide the person who requested the record with a written explanation of the methods used in conducting the tests.

(4) For the purposes of this section, the results of product or environmental testing do not include the results of preliminary testing conducted for the purpose of developing methods of testing.

Disclosure if a supplier consents

(5) The head of a government institution may disclose any record that contains information described in subsection (1) with the consent of the third party to whom the information relates.

Disclosure authorized if in public interest

(6) The head of a government institution may disclose any record requested under this Act, or any part thereof, that contains information described in paragraph (1)(b), (c) or (d) if such disclosure would be in the public interest as it relates to public health, public safety or protection of the environment and, if such public interest in disclosure clearly outweighs in importance any financial loss or gain to, prejudice to the competitive position of or interference with contractual or other negotiations of a third party.

Advice, etc.

Operations of Government

21. (1) The head of a government institution may refuse to disclose any record requested under this Act that contains

- (a) advice or recommendations developed by or for a government institution or a Minister of the Crown,
- (b) an account of consultations or deliberations involving officials or employees of a government institution, a Minister of the Crown or the staff of a Minister of the Crown,
- (c) positions or plans developed for the purpose of negotiations carried on or to be carried on by or on behalf of the Government of Canada and considerations relating thereto, or
- (d) plans relating to the management of personnel or the administration of a government institution that have not yet been put into operation,

if the record came into existence less than twenty years prior to the request.

Essais préliminaire

des méthodes utilisées pour effectuer les essais.

(4) Pour l'application du présent article, les résultats d'essais de produits ou d'essais d'environnement ne comprennent pas les résultats d'essais préliminaires qui ont pour objet la mise au point de méthodes d'essais.

Communication autorisée

(5) Le responsable d'une institution peut communiquer tout document contenant les renseignements visés au paragraphe (1) si le tiers que les renseignements concernent y consent.

Communication dans l'intérêt public

(6) Le responsable d'une institution fédérale peut communiquer, en tout ou en partie, tout document contenant les renseignements visés aux alinéas (1)b), c) et d) pour des raisons d'intérêt public concernant la santé et la sécurité publiques ainsi que la protection de l'environnement; les raisons d'intérêt public doivent de plus justifier nettement les conséquences éventuelles de la communication pour un tiers : pertes ou profits financiers, atteintes à sa compétitivité ou entraves aux négociations qu'il mène en vue de contrats ou à d'autres fins.

Activités du gouvernement

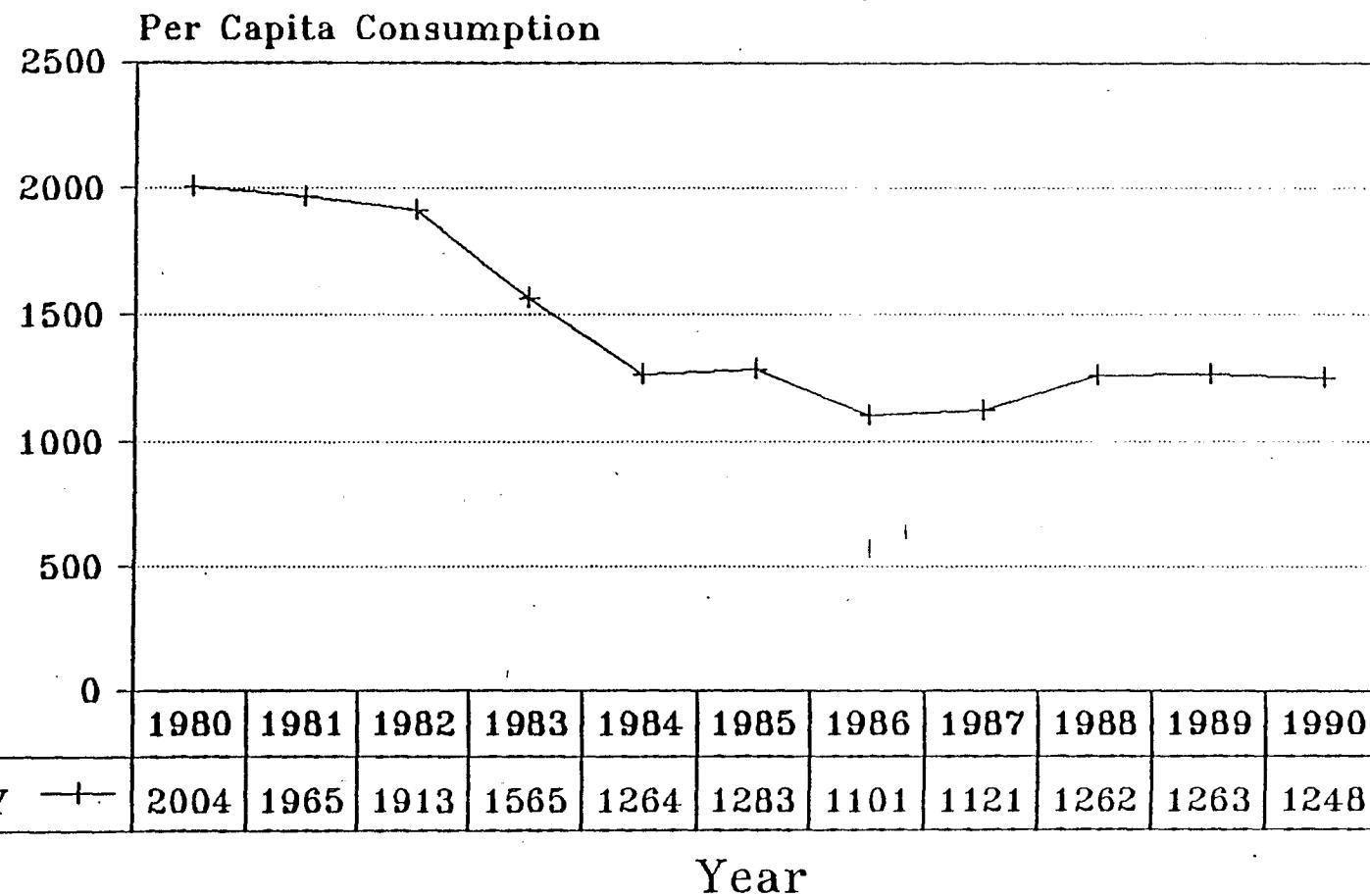
21. (1) Le responsable d'une institution fédérale peut refuser la communication de documents datés de moins de vingt ans lors de la demande et contenant:

Avis, etc.

- a) des avis ou recommandations élaborés par ou pour une institution fédérale ou un ministre de la Couronne;
- b) des comptes rendus de consultations ou délibérations où sont concernés des cadres ou employés d'une institution fédérale, un ministre de la Couronne ou le personnel de celui-ci;
- c) des projets préparés ou des renseignements portant sur des positions envisagées dans le cadre de négociations menées ou à mener par le gouvernement du Canada ou en son nom, ainsi que des renseignements portant sur les considérations qui y sont liées;
- d) des projets relatifs à la gestion du personnel ou à l'administration d'une institution fédérale et qui n'ont pas encore été mis en œuvre.

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HONG KONG PER CAPITA CONSUMPTION



Consumption: US Dept of Agriculture
Population: United Nations

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Seurantatutkimus suomalaisten suhtautumisesta tupakointiin

MERI PAAVOLA • JORMA TIKKANEN • ANTERO HELOMA
KAJ KOSKELA

Suomalaisten tupakointia ja suhtautumista tupakointiin on selvitetty kolmena peräkkäisenä vuonna 1988—90 haastattelututkimuksin. Yli 2 000 haastatellun otoksista tupakoi kolmannes miehistä ja viidennes naisista. Alle 35-vuotiaiden miesten tupakointi lisääntyi seuranta-aikana. Tupakoinnin vaarallisuudesta terveydelle oli useilla tupakoivilla hyvät tiedot, mutta vain pieni osa sanoi vähenetäänensä tupakointia sen vuoksi. Tupakansavulle altistui työpaikallaan 40 % haastatelluista, ja yli puollelle heistä altistumisesta oli jonkinlaista haittaa. Vuoden 1990 haastattelussa 90 % työssä käyvistä kannattikin tupakoinnin rajoittamista työpaikalla.

Arvioiden mukaan tupakointi aiheuttaa Suomessa vuosittain 4 000—6 000 ennenkaista kuolemaa. Tupakointi onkin ilmeisesti tärkein yksittäinen ennenkaikseen kuolleisuuden aiheuttaja, ja se on kaikkein useimmin syynä keuhkosyöpää ja sydäninfarktikuolemiin (1). Äidin raskaudenaikeiseen tupakointiin liittyy useita riskejä (2—7). Sen on todettu lisäävän keskenmenoriskia ja perinataalikuoleisuutta. Tupakoivien äitiöt lapset ovat myös syntymäpainlessa pienempiä kuin tupakoimattomien.

Passiiviseen tupakointiin eli pakkotupakointiin liittyvä ärsytysoireiden lisäksi useita terveyshaittoja (8—17). Tutkimuksessa on osoitettu, että tupakansavulle passiivisesti altistuvien keuhkosyöpäriski on keskimäärin 1,3-kertainen altistumattomien riskiin verrattuna. Tupakoimattomien keuh-

kosyöstä neljännes voisi siis selittää passiivisesta altistumisesta. Henkitysepiteelin ja silmien ärsytysoireita esiintyy erityisesti hengitystiealergikoilla, astmaatikoilla ja angina pectorista sairastavilla. (18.)

Tupakansavulle altistuminen lisää lasten alttiutta ylähengitystieinfektiin (18,19). Alle kouluikäisten infektiotilitus on 2—3-kertainen verrattuna tupakansavulle altistumattomien lasten alttiuteen. Myös äidin altistumisen tupakansavulle raskauden aikana saattaa vähentää mm. lapsen syntymäpainoa.

Tupakoinnin vähentäminen on ehkäisevän lääketieteen tärkeimpää tehtävä. Suomalaisten suhtautumista tupakointiin ja sitä rajoittaviin toimenpiteisiin on seurattu vuosina 1988—90 yhteensä lähes 6 000 henkilön puhelinhaastatteluissa. Tutkimukset on tehty lääkintöhallituksen ja Tilastokeskuksen yhteistyönä. Osa haastatteliville esitetyistä kysymyksistä on ollut joka vuosi samoja, joten niiden perusteella voidaan tarkastella tapaturneita muutoksia.

AINEISTO JA MENETELMÄT

Tutkimusten kohteena ovat 15—64-vuotiaat suomalaiset. Otoksiin valittiin kunakin vuonna (1988, 1989, 1990) noin 2 300 henkilöä tasaväliställä otannalla väestön keskusrekisteristä. Otannoissa otettiin huomioon keskeiset taustamuuttujat (sukupuoli, ikä, kieli, asuinpaikka) siten, että ne olivat edustettuina samassa suhteessa kuin koko Suomen väestössä. Otoksista vähennettiin kuolleet sekä ulkomailta ja laitoksissa olevat. Vastausprosentit olivat 85, 86 ja 83. Kato johti pääasiallisesti siitä, ettei haastattelataa tavoitettu, hän kieltyyi haastattelusta tai oli sairas.

Tilastokeskuksen 200 haastattelijaa tekivät 93 % haastattelujista puhe-tilitse ja loput haastateltavan kotonäköä käyttäen strukturoitua ja esitestattua lomaketta. Vastausvaihtoehdot joko luettiin tai haastattelavan annet-

tiin vastata spontaanisti kysymykseen. Aineistot ristiintaulukoitiin iän ja sukupuolen suhteen.

Ottantavaihtelua kuvaa 95 %:n luottamusväli; se ilmoittaa 95 %:n todennäköisyydellä, minkä rajojen sisällä jonkin vastauksen prosentiosuuus olisi, jos kaikki 15—64-vuotiaat suomalaiset olisi haastateltu. Esimerkiksi jos tässä tutkimuksessa 30 % noin 2 000 haastatellusta ilmoittaa tupakoivansa, on tupakoivien osuus koko suomalaisväestössä 30 % \pm 2 % eli 28—32 %. Haastateltavien määrä kuitenkin vaihtelee tässä tutkimuksessa kysymyksittäin, sillä osa kysymyksistä on esittetty esimerkiksi vain päävittäin tupakoiville, joita on noin 500. Tällöin luottamusväli on suurempi ja jonkin vastausvaihtoehdon 30 %:n kannatus tarkoittaa koko väestön suhteutettuna 30 % \pm 4 % eli 26—34 %:n kannatusta.

TULOKSET

Miehistä ilmoitti tupakoivansa päävittäin 35 % vuonna 1988, 33 % vuonna 1989 ja 36 % vuonna 1990; tupakoivien naisten vastaavat osuudet olivat 20 %, 20 % ja 21 %. Alle 35-vuotiaiden miesten päävittäinen tupakointi näytti lisääntyneen ja 55—64-

TAULUKKO 1. Päävittäin tupakoivien käsitys (%) vuosina 1989 ja 1990 siitä, vahingoittaako heidän nykyinen tupakointimääränsä terveyttä. Vuonna 1989 kysymys kohdistettiin päävittäin tehdasvalmistisia savukkeita polttaville (muiden tupakkatuotteiden käyttäjä oli 48) ja vuonna 1990 kaikille päävittäin tupakoiville.

Vahingollisuus terveydelle	1989 (n = 479)	1990 (n = 543)
Ei lainkaan	5	5
Jonkin verran	52	56
Paljon	26	23
Erittäin paljon	11	9
Ei osaa sanoa	6	7
Yhteensä	100	100

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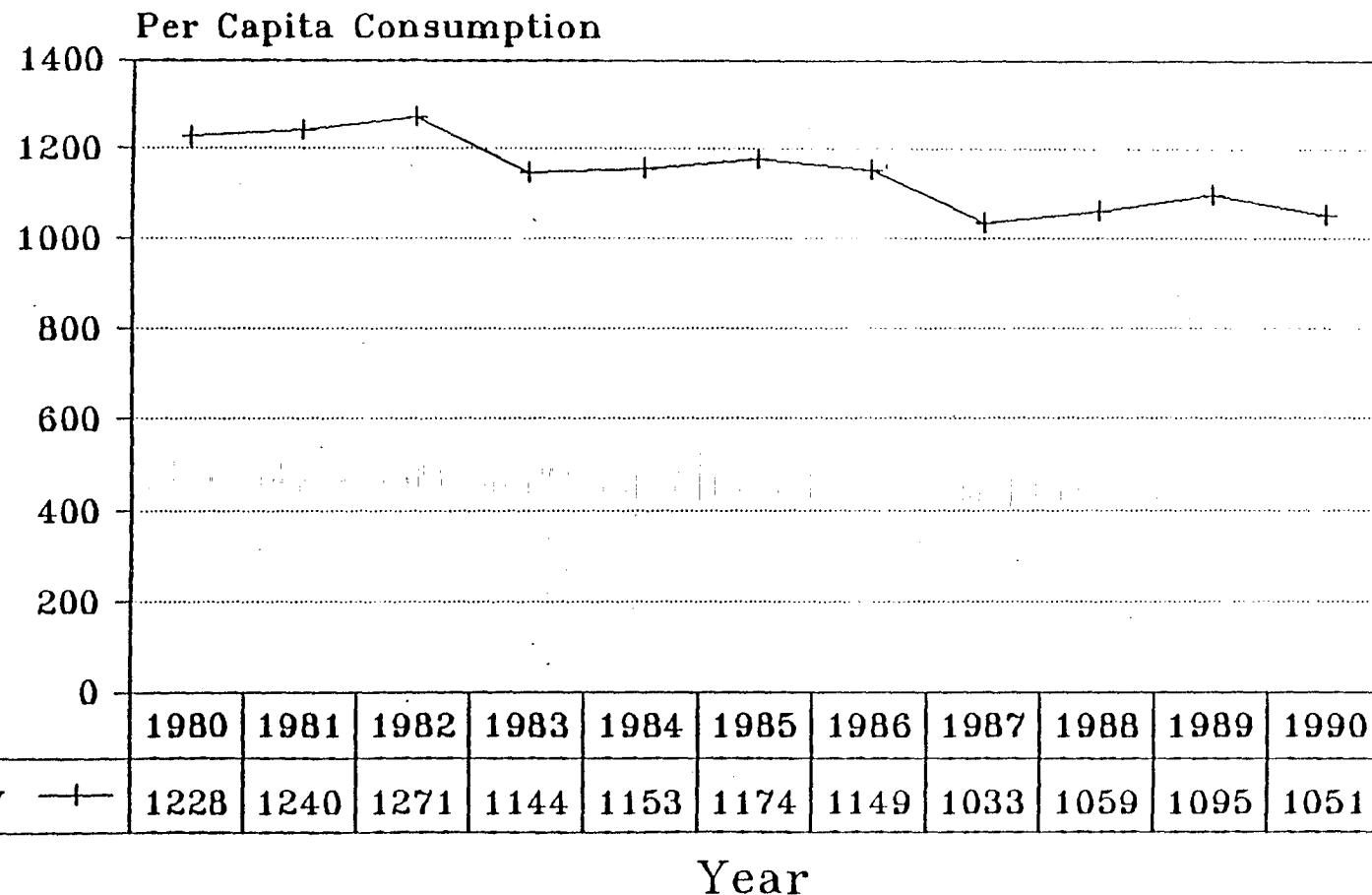
INTRODUCTION

Since almost the beginning of its recorded history, tobacco has provoked controversy and attempts to control its use (Mackenzie, 1986). Despite these efforts, the demand for tobacco in its many forms, cigarettes, cigars, pipe, snuff and chewing has grown steadily. With this growth there has accumulated a substantial body of evidence indicting tobacco as a significant cause of disease and premature death. Today, tobacco use is under attack in many developed countries and if its consumption is not declining in all cases, at least the steady growth in consumption has flagged. In less developed countries, the evidence of particular trends in tobacco use and its consequences are less clear. Still, because of the heavy toll of tobacco induced illnesses experienced in the developed world, attention is increasingly being paid to developments in the less developed countries (World Health Organization, 1986).

This paper addresses the issue of appropriate tobacco policies for less developed countries (LDC's) based largely on the experience of the more developed world. The reason for this focus is that there is limited information available about the impact of tobacco in less developed countries and even less is known about the costs and consequences of tobacco control policies in these countries. Evidence from less developed countries is used where available and relevant

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MALAYSIA PER CAPITA CONSUMPTION



Consumption: US Dept of Agriculture
Population: United Nations

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marketing of manufactured cigarettes is the sine qua non of a modern tobacco industry. The consumption of manufactured cigarettes tends to have a high income elasticity and reflect more a "modern" tobacco product. The cigarette is the product most promoted by the large multinational tobacco companies and government tobacco monopolies and it is the product whose deleterious health effects have been most studied and well documented. Much of the discussion in this paper focuses on the cigarette as the prototypical tobacco product; however, the arguments presented and conclusions reached can frequently be generalized to include other forms of tobacco consumption.

Trends in Cigarette Consumption

Despite the rapid growth in and dispersion of information on the deleterious health effects of tobacco consumption generally and cigarette smoking specifically, aggregate world wide cigarette consumption has been increasing, almost doubling in the period since 1960. Concern about this aggregate trend has lead public health authorities to sound the alarm about a pending pandemic of smoking induced illness. As a look at the data in Table 2 confirms, however, such generalizations may miss many interesting and important individual developments.

During the period from 1975-6 through 1984, world wide

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PRODUCTION ORIENTED POLICIES	74
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other hand, this group may only account for 20% to 25% of the population. Accordingly, per capita consumption ratios may underestimate smoking by adults in some less developed countries by 30-40% as compared with developed countries.

2) Other Forms of Tobacco Consumption: There are many other forms of tobacco consumption which vary in popularity by country. Most important of these are chewing tobacco in many Asian countries, smoking water pipes in the Middle East and smoking of roll-your-own cigarettes or non-manufactured cigarettes in many parts of the world. For example, it has been estimated as many as seven times as many bidi's (a locally produced cigarette type smoke) as manufactured cigarettes are consumed in India. Moreover, this situation is not limited to less developed countries. In Norway, fine-cut tobacco for roll-your-own cigarettes accounts for two thirds of the total cigarette market and total per capita consumption of cigarettes is thus about 1660 annually (Collins and Mulligan, 1984). Information on the production and consumption of these alternative forms of tobacco may be unreliable or not available because their production frequently takes place as a form of cottage industry which is untaxed and unregulated. Also, a portion of this production may disappear as unreported consumption by farmers and rural villagers.

It can be generalized, however, that the production and

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Source: <https://www.industrydocuments.ucsf.edu/docs/hphl0000>

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**Tobacco in Developing Countries:
An Economic Approach to Policy Formulation**

by

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February 1987

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Table 1 contains information on per capita consumption of manufactured cigarettes in many countries in the world. While the numbers speak for themselves, understanding the situation in individual countries frequently requires interpretation. There is wide variation in manufactured cigarette consumption with per capita consumption in the top five countries almost 60 times consumption in the bottom five. The following considerations, however, enter into the interpretation of these ratios:

1) Demographic and Gender Factors. In almost all countries, men are more likely to smoke than women and male smokers tend to smoke more heavily than women. However, this distinction is much more pronounced in many LDC's where very few women smoke. Accordingly, in these countries per capita consumption rates may underestimate male consumption by almost 50%. For example, because only 1% of the female population of Egypt smoke cigarettes, the consumption of cigarettes by males in Egypt is nearly twice the value in Table 1 or 1750 per male, close to the value for the United Kingdom where men and women are almost equally likely to smoke. A similar statistical aberration arises with regard to the age distribution of the population. Typically children under 15 years of age do not smoke or smoke many fewer cigarettes than adults. In many LDC's, children under 15 years old account for 40-50% of the population. In developed countries, on the

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national Survey, ERC Statistics International Limited. TTM currently has four factories operating at full capacity—100 million pieces a day total—and plans to expand production by 50 percent within the next two-to-three years. TTM also has said that it plans to export cigarettes "throughout Southeast Asia . . . and Russia. And we think we have the opportunity to penetrate Europe." *Tobacco Reporter*, January 1991, p. 36.

In March of 1992, the Taiwan monopoly likewise said that it planned to expand its production capacity, and earlier this month, Japan Tobacco announced that it had acquired The Manchester Tobacco Ltd. of Britain for \$8.6 million in order to expand business overseas. The annual report for JTI for the year ended March 31, 1991, shows annual sales of \$21 billion and an export business that reached into 33 countries. According to the report, Japanese cigarette exports grew from 1.5 billion pieces in 1987 to 7.5 billion pieces in 1991—a five-fold increase.

- *The markets are locally dominated even in the non-monopoly countries, with the sole exception of Hong Kong.* As the attached tables show:

The Indonesian market is dominated by local brands produced by Indonesian kretek and cigarette manufacturers. In 1990, U.S. brands had less than a one-percent share of the Indonesian market. Malaysia requires that cigarettes sold in that country be 70 percent local tobacco, and this domestic-content requirement will increase to 85 percent by 2000. (The Office of the U.S. Trade Representative, in its 1992 National Trade Estimate Report on Foreign Trade Barriers, characterizes Malaysia's import duties on tobacco leaf as "prohibitive.") Hong Kong, which has long been the only free market country among the seven, is the only country in which the market share of U.S. brands exceeds 50 percent.

- *Foreign cigarette manufacturers—including U.S. companies—are minor players in the Pacific Rim markets, with the exception of Hong Kong.* As the attached pie charts show, U.S. brands in 1990 accounted for only a small fraction of the cigarettes consumed in each of these countries, with the sole exception of Hong Kong. (Although U.S. brands are shown as having a 25 percent market share in Malaysia, as noted Malaysia requires that cigarettes sold in that country be 70 percent local tobacco.)

In Japan, 16 percent market share
In Taiwan, 9 percent market share
In South Korea, 2 percent market share
In Thailand, 0 percent market share
In Indonesia, .9 percent market share

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countries, preventive measures may be necessary to discourage the initiation of smoking by this group.

Recently attention in developed countries has focused on the effects of passive smoking - the effects of tobacco smoke on non-smokers. There is some evidence to suggest that passive smoking may give rise to an increased risk of cancer in non-smokers and may exacerbate certain existing health problems in non-smokers. For these reasons as well as the discomfort passive smoking causes many non-smokers, smoking is increasingly viewed as being less socially acceptable and efforts are being made to separate non-smokers from smokers.

Costs of Smoking

Concern about the health consequences of smoking has raised questions about the economic consequences of these health effects and there have been a number of estimates of the economic costs of smoking (Offices of Technology Assessment, 1985). These studies typically have several components:

- 1) They attempt to measure the health consequences of smoking by identifying the increased incidence of smoking induced illnesses in smokers and attributing this increased level of disease to smoking.

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however. In addition, several issues on the production side which are relatively unique to some less developed countries are discussed.

The paper begins with a brief overview of current trends in tobacco consumption and production and a brief discussion of the health consequences of tobacco use. The rationale for government policy is then discussed within the context of neo-classical welfare economics. Issues surrounding policy instruments intended to reduce the demand for cigarettes are then explored. As the question of whether tobacco production in LDC's should be enough appears to be of prime importance, production related policies are also examined. Finally, a number of specific recommendations are discussed.

TRENDS IN TOBACCO PRODUCTION AND CONSUMPTION

Emotions tend to run high when discussing the tobacco industry and the health consequences of tobacco use. In such situations useful information is sometimes ignored in an attempt to make a dramatic statement. Because generalizations frequently do not yield policies appropriate for different situations, this section highlights aspects of the diverse world wide tobacco situation as background to the discussion of specific policies.

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who will attempt to protect their advantage. This behavior may make the implementation of appropriate tobacco demand policies difficult in a number of countries.

The various subsidies only benefit the producers at the expense of consumers. From a larger perspective, there is no net gain. Moreover, the continuation of current subsidy arrangements are largely dependent on developments in the U.S. and China (the largest tobacco producers) and on the continued demand for imported tobacco in developed countries. Accordingly, while increased tobacco production may appear profitable in the short run, the advantage can fade quickly.

The production of tobacco carries an environmental risk in some developing countries. This results from the use of wood for tobacco curing in countries where the threat of deforestation is considerable. While this problem is limited to certain countries, the environmental impact of deforestation leading to soil erosion and eventual desertification can be catastrophic. It is argued that deforestation results from a tendency to undervalue wood. In particular, in many countries, wood seems to be valued by the cost of gathering rather than by the cost of maintaining a steady supply. This undervaluing of wood leads to its inefficient use and makes the production of wood-cured tobacco appear more profitable than it actually is. Since policies designed to reforest areas without modifying behavior may only exacerbate the problem, it is suggested that tobacco growers (and other users of wood) be required to provide for their own needs. This will not only help control deforestation directly but by causing wood to be more fully valued, lead to a modification in production practices, perhaps ultimately reducing the profitability and supply of tobacco.

The paper concludes with several specific recommendations, including: 1) all tobacco products should be labelled with health warnings; 2) advertising of tobacco products should be restricted or abolished; 3) appropriate health education programs need to be implemented; 4) tobacco taxes have an important policy function but determining the appropriate level of taxation is difficult; 5) there appears to be little justification for encouraging tobacco production; 6) alleviation of the environmental impact of tobacco production should be accomplished by modifying the incentives facing producers; 7) high priority areas for further research include a cross-national, multivariate study of the relationship between tobacco use and tobacco policy in a sample of LDC's and a study of the impact of tobacco use on health care costs in specific LDC's. Ultimately, tobacco policy will have to reflect individual circumstances on a country by country basis.

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sion is that smoking is decidedly less prevalent among persons with a higher level of education and income (Bjartveit & Løchsen, 1979; Holme et al., 1976). The same pattern probably applies to the younger generation. Figures from the present study indicate that young people from urban areas may be ahead of their contemporaries from rural areas as regards reducing or giving up smoking. Future efforts against smoking should not only be directed against the important group comprised of 13-year-olds in general, or girls in particular. It should be equally important to single out the particular groups of young people where smoking is especially widespread. A more detailed study of the cultural and social processes behind the prevalence of smoking is thus called for (see Aarø, 1981 b).

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tobacco use. The advantages and disadvantages of the three policies are discussed and it is concluded that there is reasonable justification for warning labels and advertising restrictions. There is also reason to believe that health education might be very effective, but as public health education programs might require the reallocation of very scarce resources in certain countries, they are best evaluated on a case by case basis.

High levels of taxation on tobacco products would also discourage their consumption. Taxes can also redress the externalities that arise if tobacco users do not bear the full costs of the deleterious effects of tobacco use because social insurance schemes spread these costs indiscriminately among non-smokers as well as smokers. The evidence examined suggests that it may be difficult to determine an appropriate level of tobacco taxation for a particular country because: 1) information on the extent of the uncompensated externalities associated with tobacco use in LDC's is limited; 2) high tax policies are paternalistic and impose added burdens on smokers; 3) high tax policies create problems of enforcement; and 4) high tax policies may create a dependency by government on the tobacco sector that may work against other tobacco policies.

Restrictions on sales to minors and on cigarette consumption are also attractive policies designed to address specific concerns. While such legal restrictions have been legislated in many developed countries, there is little information on their impact or on the cost of their enforcement. Accordingly, little can be said about their value in LDC's.

It has been asserted elsewhere that attention should be directed to tobacco production in order to effectively cope with the problems of tobacco use. It is argued, however, that the local production of tobacco is not necessary for its consumption and that because of the high level of taxation on many tobacco products there is frequently little relationship between the cost of tobacco and the retail price of tobacco products.

Concerns about the production side of the tobacco market arise primarily because of the substantial subsidies provided tobacco growers in many countries. Subsidies are provided by national governments and major tobacco manufacturers. In addition, U.S. agricultural policy which restrains U.S. tobacco production keeps the price of tobacco artificially high in world markets. Because of these subsidies, tobacco production is very profitable in many areas of the less developed world and these sources of supply are being developed. Concern is expressed about the political implication of developing subsidized tobacco sectors as this can lead to aggressive "rent seeking" behavior by producers

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Exercise of a discretionary power or adjudicative function

(2) Subsection (1) does not apply in respect of a record that contains

- (a) an account of, or a statement of reasons for, a decision that is made in the exercise of a discretionary power or an adjudicative function and that affects the rights of a person; or
- (b) a report prepared by a consultant or adviser who was not, at the time the report was prepared, an officer or employee of a government institution or a member of the staff of a Minister of the Crown.

Testing procedures, tests and audits

22. The head of a government institution may refuse to disclose any record requested under this Act that contains information relating to testing or auditing procedures or techniques or details of specific tests to be given or audits to be conducted if such disclosure would prejudice the use or results of particular tests or audits.

Solicitor-client privilege

23. The head of a government institution may refuse to disclose any record requested under this Act that contains information that is subject to solicitor-client privilege.

Statutory prohibitions against disclosure

24. (1) The head of a government institution shall refuse to disclose any record requested under this Act that contains information the disclosure of which is restricted by or pursuant to any provision set out in Schedule II.

Review of statutory prohibitions by Parliamentary committee

(2) Such committee as may be designated or established under section 75 shall review every provision set out in Schedule II and shall, within three years after the coming into force of this Act or, if Parliament is not then sitting, on any of the first fifteen days next thereafter that Parliament is sitting, cause a report to be laid before Parliament on whether and to what extent the provisions are necessary.

Severability

25. Notwithstanding any other provision of this Act, where a request is made to a government institution for access to a record that the head of the institution is authorized to refuse to disclose under this Act by reason of information or other material contained in

(2) Le paragraphe (1) ne s'applique pas aux documents contenant:

- a) le compte rendu ou l'exposé des motifs d'une décision qui est prise dans l'exercice d'un pouvoir discrétionnaire ou rendue dans l'exercice d'une fonction judiciaire ou quasi-judiciaire et qui touche les droits d'une personne;
- b) le rapport établi par un consultant ou conseiller à une époque où il n'appartenait pas au personnel d'une institution fédérale ou d'un ministre de la Couronne.

22. Le responsable d'une institution fédérale peut refuser la communication de documents contenant des renseignements relatifs à certaines opérations — essais, épreuves, examens, vérifications —, ou aux méthodes et techniques employées pour les effectuer, et dont la divulgation nuirait à l'exploitation de ces opérations ou fausserait leurs résultats.

23. Le responsable d'une institution fédérale peut refuser la communication de documents contenant des renseignements protégés par le secret professionnel qui lie un avocat à son client.

Disclose

Examens et vérifications

Secret professionnel des avocats

Interdictions fondées sur d'autres lois

24. (1) Le responsable d'une institution fédérale est tenu de refuser la communication de documents contenant des renseignements dont la communication est restreinte en vertu d'une disposition figurant à l'annexe II.

(2) Le comité prévu à l'article 75 examine toutes les dispositions figurant à l'annexe II et dépose devant le Parlement un rapport portant sur la nécessité de ces dispositions, ou sur la mesure dans laquelle elles doivent être conservées, dans les trois ans qui suivent l'entrée en vigueur de la présente loi, ou, si le Parlement ne siège pas, dans les quinze premiers jours de séance ultérieurs.

Interdictions fondées sur d'autres lois

Examen des dispositions interdisant la communication

Prélèvements

25. Le responsable d'une institution fédérale, dans les cas où il pourrait, vu la nature des renseignements contenus dans le document demandé, s'autoriser de la présente loi pour refuser la communication du document, est cependant tenu, nonobstant les autres

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1) Most cost of illness studies have been based on estimates of the prevalence of illness in a particular year. Because of the chronic nature of many smoking induced illnesses and the lags between the initiation of smoking and the appearance of some important smoking induced illness, prevalence-based cost estimates reflect the consequences of historical trends in smoking. They cannot be used to estimate the impact of smoking control policies nor to predict the impact of increases in smoking except over the very long run. They also cannot be used directly to measure the "excess" costs of smoking borne by non-smokers because of this time factor, and because they are designed to reflect resource costs and not financial transfers, they do not measure directly the pecuniary externalities associated with smoking which are principally the result of financial transfers.

2) The cost estimates are heavily dependent on reasonable estimates of the amount of smoking induced illness in a population. This has both statistical and epidemiological implications. From a purely statistical perspective, these procedures require reasonably reliable and complete information on the prevalence of tobacco induced disease (or cause of mortality) and reasonable information on smoking behavior. Neither of these are likely to be attainable in most LDC's. The World Health Organization

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information in this area extends beyond the diseases traditionally linked to tobacco use as the potential hazards posed by the synergy between tobacco use and the particular background health conditions (malnutrition, tuberculosis, etc.) in many LDC's has not been adequately explored.

The problem of accurately estimating the costs of tobacco use is compounded by the inevitability of sickness and death. Given that man is mortal, smoking should be regarded as an activity that shortens life and accelerates the onset of serious illness. The real costs of smoking are primarily the losses due to this acceleration and not the total cost of death and illness per se. Thus, estimation of the cost of tobacco use is likely to be problematic in many LDC's because in some the acceleration due to smoking induced illness may be small given the high level of competing risks, while in others success in reducing illnesses not related to smoking, may increase the importance of smoking induced illnesses.

3) The cost-of-illness studies performed for the U.S. and other developed countries reflect care rendered in sophisticated and expensive health care systems using high technology medical care. Health care systems in most LDC's are quite primitive in comparison and access to sophisticated therapies extremely limited or nonexistent. Accordingly, both the costs and benefits of health care in these countries

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are likely to be quite different than those found in developed countries. Moreover, it is speculative to use the experience of developed countries to derive predictions of future trends in health care for LDC's because both the future development of medical technology and the rate of its transference to LDC's is largely unknown. The impact of smoking induced illness on health levels may be exacerbated if increases in smoking induced illnesses lead some LDC's to divert health care resources from broad-based primary care programs to the development of costly, high technology facilities.

4) Lastly, it should be recognized that the prevalence based cost of illness approach is itself extremely limited in that it ignores many tangible and intangible costs of illness. Among the tangible cost ignored are travel to obtain health care, time lost from alternative activities by others to care for a sick individual, and modification of life style and the physical environment to accommodate chronic illness. More important are the intangible burdens of illness, pain and suffering, premature death and the deterioration in the quality of life which may be at least as important as the measurable economic costs of illness but which cannot be quantified in monetary terms by this method. These later considerations have lead analysts to consider the "willingness to pay" approach as an alternative method for measuring the cost of illness. Application of this method in

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production of cigarettes did increase by over 17% or at a compound growth rate of 2.5% per year. As population during this period was growing at a rate of only 1.8% per year, world wide per capita cigarette consumption grew at a rate of 0.7% per year during the period. A closer look at the data reveals, however, that the extraordinary growth of the cigarette industry in China accounted for this entire increase. For the balance of the world excluding China, aggregate consumption increased by less than 1% per year and per capita consumption fell by .8% per year.

It has become a widely accepted "truism" that while cigarette use may be falling in several developed countries because of health concerns, it is being "exported" to and is growing in less developed countries. As can be seen in Table 2 (and is reported in greater detail in Appendix A), the experience of developing countries is mixed. Several countries, China, Egypt, Malawi and others, report high rates of growth in both aggregate and per capita consumptions. Many other countries, however, report rates of growth in consumption below rates of population growth suggesting that per capita consumption is in fact falling. More attention should be paid to these differences in the rates of growth in different countries to aid in formulating effective smoking control policies for less developed countries.

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consumers and takes consumer decisions as important data in evaluating alternative states of the world. Within this framework, consumers' choices are driven by their efforts to satisfy exogenously determined tastes subject to constraints on their resources (e.g., limited time or income). Given appropriate information about products and prices, each consumer purchases a market basket of goods designed to maximize satisfaction. Consumer purchases of certain goods in certain quantities, as opposed to the other choices available, are said to "reveal" that the actual purchases are preferred to the alternatives. Two conditions of this paradigm are that consumers have full knowledge of the consequences of their choices and that consumers always choose the market basket that provides them with the most satisfaction. If these conditions are met, it is reasonable to infer that individuals who use tobacco prefer this activity to alternative consumption choices and that depriving them of this option will in some sense make them "worse-off".

The notion of revealed preference is not enough to allow us to judge between alternative policies or states. An efficiency or optimality criterion is also required. The generally accepted Pareto optimality criterion states that an optimum is obtained when it is impossible to make any individual better-off without simultaneously reducing another's welfare. This criterion rests implicitly on a desire to avoid making interpersonal comparisons and in so

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HEALTH EFFECTS OF TOBACCO USE

The link between tobacco use, either by smoking or chewing, and ill health is well documented. Most of the evidence concerns life-threatening chronic illnesses in cigarette smokers in developed countries but there is evidence of the dangers of various forms of tobacco use from less developed countries. The three major categories of tobacco induced illness are cardio-vascular disease, cancer and chronic respiratory diseases.

Cardiovascular diseases are the leading cause of death in most developed countries and are beginning to become important health problems in several LDC's including China, Malaysia, Mauritius and Sri Lanka (World Health Organization, 1986). The influence of smoking on cardio-vascular disease is independent of, but also synergistic with other risk factors such as high serum cholesterol levels. The relative risk associated with smoking is greater at young ages and cigarette smoking seems to be particularly important in increasing the risk of sudden death in men under 50 years of age.

Smoking is causally implicated in most respiratory cancers (particularly lung cancer) and chewing tobacco is a major risk factor for oral cancers. Lung cancer is so strongly linked to cigarette smoking, that it is generally

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used as a "marker" for smoking induced illness. There is however, a lag of about 20 years between increases in cigarette smoking and increases in lung cancer. In addition, there is a strong correlation between the duration of regular cigarette smoking and the subsequent development of lung cancer (a doubling of the duration of regular smoking leads to a twenty fold increase in lung cancer incidence), (World Health Organization, 1986). The combination of the 20 year lag in the onset of illness and the relationship between duration of smoking and the incidence of disease means that the full impact of smoking on cancer levels may not be realized until decades after an increase in smoking. As a consequence, the full effect of increased levels of smoking on health in those LDC's where smoking has increased recently may not be evident for many years.

Smoking has also been implicated in the development of chronic bronchitis and emphysema and as exacerbating acute respiratory diseases. It is an important factor in cancers at many sites in the body and has been found to be particularly deleterious to reproductive health. Smoking during pregnancy has been shown to result in increased rates of fetal and perinatal death and low birth weight. These adverse pregnancy effects can be serious in many LDC's where infant mortality rates are very high to begin with. These adverse effects are mitigated in those LDC's where smoking is uncommon among women of child-bearing age, but in these

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Nowadays tobacco ads must not exceed 3/4 of a page. The health warning must cover 20 percent of the ad.

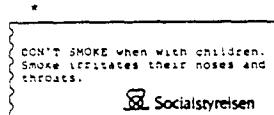
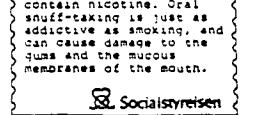
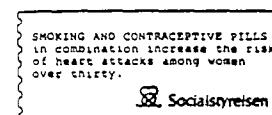
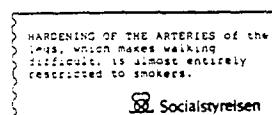
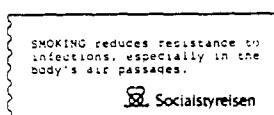
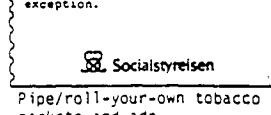
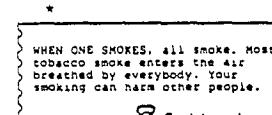
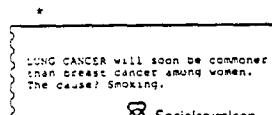
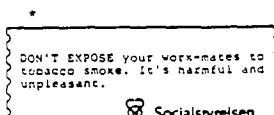
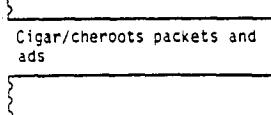
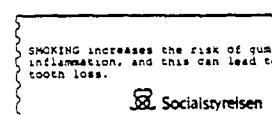
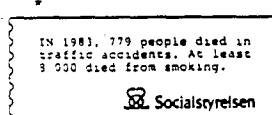
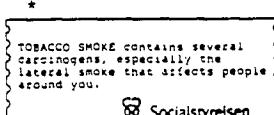
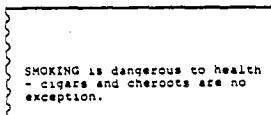
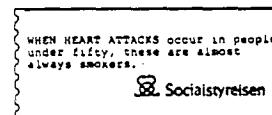
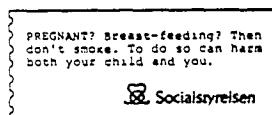
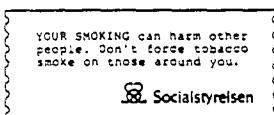
Warning labels on tobacco products

In Sweden we have a labelling system with warnings against smoking. Each tobacco product has to have a warning on the package. Intentionally there are as many as 16 different labels with a warning text. Thirteen of these warnings are used on cigarette packages in a rotational system which means that the consumer never knows which warning he or she will see on the purchased package. Thus, purchasers of tobacco products will be exposed to varying information about the harmful effects of tobacco. New warning texts are regularly launched aiming to make the smoker informed about all harmful aspects of tobacco.

Recent scientific research is included in these texts.

The National Board of Health and Welfare has since 1986 established the following 16 warning labels to be used in tobacco advertisements and on packages:

HEALTH WARNINGS



* For advertisements also

Socialstyrelsen - 2503018013

The National Board of Health and Welfare

2) They apply these attribution ratios to estimates of the costs of caring for individuals with these illnesses in order to obtain an estimate of the direct (health care) costs of smoking.

3) They obtain estimates of the "indirect" costs of smoking induced illness by first obtaining measures of the increased rates of morbidity and mortality in smokers and then valuing the time lost due to morbidity by a measure of the wage rate and the excess mortality by a measure of discounted future earnings.

Over a dozen such cost of smoking induced illness studies have been performed for the United States. In addition, estimates of various aspects of the costs of smoking induced illnesses have been calculated for Canada (Forbes and Thompson, 1983), the United Kingdom (Atkinson, 1974), Sweden (Hjalte, 1984) and Switzerland (Leu and Schaub, 1984). Chabbou, et al., (1984) have examined the costs of smoking induced respiratory illnesses in Tunisia, but comprehensive estimates have not been attempted for other less developed countries. Moreover, there are a number of reasons to believe that the estimates derived for developed countries are of limited value in analyzing the costs of smoking induced illness in most LDC's. These reasons include:

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The incidence based approach is conceptually better suited than the prevalence based methodology for estimating the impact of smoking in LDC's particularly as it relates changes in current smoking behavior to future changes in the costs of smoking induced illness. Unfortunately, the "incidence" based procedure suffers from all of the limitations regarding transferability from developed to less developed countries discussed above and does not directly address the issues of intangible costs or externalities. Moreover, even for the U.S., the incidence procedure suffers from severe limitations of knowledge and data. Although data limitations plague all cost estimates, a recent review by Hodgson and Lewit (1985) highlighted the greater severity of this problem for U.S. incidence based estimates. Accordingly, the situation in LDC's is likely to be worse by several orders of magnitude.

Because the estimation of the costs of smoking-induced costs in LDC's appears highly problematic, I do not attempt in this paper to evaluate different smoking control policies within cost/benefit framework. Rather each policy discussed will be evaluated with regard to its likely effect on smoking per se, its costs and the degree to which it may contribute to a more optimal allocation of resources within the framework of neo-classical welfare economics.

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Neoclassical welfare economics begins with the paradigm of fully informed, rational consumers. An extreme case of addiction, polar to that assumption would be the smoker who derives no utility from smoking and smokes only from force of habit. In this extreme case, because the smoker derives no benefit at all from smoking, his welfare would be increased if he could be convinced to spend his money on another commodity. This scenario is analogous to viewing smoking as a disease which is costly and yields no benefits. Accordingly, policies which curtail smoking act as a "vaccination" to eliminate the costs of smoking without any loss of forgone utility (Atkinson, 1974) (1).

The assumption that there are no benefits from smoking is not very realistic and it is likely that attempts to control tobacco use will impose costs on some smokers. The costs of tobacco control policies will differ among smokers and non-smokers and with the level of smoking in society. In general, policies designed to discourage the initiation of smoking will be less burdensome than policies designed to curtail smoking. Policies that place a heavy burden on smokers "for their own good" are likely to be sub-optimal as the observation that some smokers want to quit but can't means that they perceive the costs of quitting to be too high. Ultimately, conflicts may arise as certain policies designed to curtail the initiation of smoking may result in

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doing, it says nothing about the desirability of alternative distributions of satisfaction within society.

Prices are signals that guide resource allocation. They inform producers and consumers about relative costs and trade-offs. Well-functioning, competitive markets are said to be efficient because they allow participants to reach Pareto optimal states. In such situations, the role of government is limited because movement from a Pareto optimum generally will leave some citizens worse off and hence violate the optimality criterion. There may be, however, a role for government intervention when markets fail to reach optimal states. In the case of such market failures or inefficiencies, government intervention is generally thought to be warranted if the market failure is important, and if government intervention can help to correct the failure without doing significant harm. Several sources of market failure have been identified with the use of tobacco and may serve as justifications for government intervention. They include externalities in consumption and production, inadequate information about the dangers of consumption and addiction.

Externalities

Externalities are defined as harmful or beneficial side effects of an activity not borne directly by parties to

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pensions behind them when they die prematurely.

In less developed countries, without well established institutional supports for the sick and disabled, financial externalities may be less important than in modern industrial societies. There is, however, a kind of intra-family externality that may be important in both developed and developing countries. In both situations, the premature illness and death of a family member can place an added burden on other family members. This burden is conceptually similar to the burden of excess illness mediated via societal insurance schemes but more difficult to measure.

A nonfinancial externality which results from the deleterious health effects of smoking is the pain and suffering caused some individuals by the illness and death of another. Unfortunately, welfare economics has not been clever enough to deal effectively with situations where the health of some persons are important to the well-being of others. The problem arises because there is no accepted procedure for measuring the strength of feelings or for trading in feelings. As a result, there is no easy way to reconcile one family member's concern about the health or well being of another with the other's desire to engage in dangerous activities.

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Recently, concern has focused on the consequences of

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population at large will inexorably have an impact on children both because of their tendency to imitate adult behavior and because of a shift in the general social climate in a direction less supportive of tobacco use.

POLICY INSTRUMENTS TO REDUCE DEMAND

Informational Strategies

A basic requirement for efficiently functioning markets is that consumers be aware of the consequences of their actions. If they are not, then their consumption decisions are not likely to be optimal and will not reflect their true preferences. In the case of tobacco, it is thus important that consumers be aware of the ultimate health effects of consumption.

Because disclosure of information on risks of smoking will most likely reduce demand for tobacco, profit maximizing tobacco merchants cannot be expected to provide complete and appropriate information on the dangers of their product on their own initiative, and government intervention may be required to get the information across. In fact, Leu (1984) argues that many activities which help people avoid the harmful effects of smoking are public goods which will be underproduced in the absence of government intervention (2).

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Fires

Although its deleterious health effects are the principal hazard associated with tobacco consumption, the smoking of tobacco carries with it an increased risk of fire. Kristein (1983) reports U.S. data suggesting that smoking was responsible for from 7.3 to 11% of U.S. fire losses in 1980. The dollar losses associated with these fires (409 to 616 million dollars) amounted to approximately 1% of the estimated total economic costs of smoking for the same year. Atkinson (1974) reports estimates for Britain from the late 1960's which suggest that the cost of fires attributable to smoking represented less than 4% of the total economic costs of smoking. There appears to be little data on the fire costs generated by smokers in LDC's. Because of high population densities in certain urban areas, the use of flammable building materials and low level of fire protection in many less developed countries, the fire hazard posed by smoking might be greater in these countries than the estimates for the U.S. and U.K. would indicate. On the other hand, smokers in LDC's may be more careful than smokers in developed countries because of concern about the fire risk. Because the fire costs of tobacco appear small compared to its health costs, they are not explicitly addressed in this paper. However, much of the general

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"Passive" smoking and in particular on the deleterious effects of smoking on the health of non-smokers. At the very least, tobacco smoking is a nuisance and minor irritation to nonsmokers; at the other extreme, there is evidence that passive smoking may increase non-smokers' risk of developing the same kinds of diseases that plague smokers.

Intra-family externalities may arise because of the effect of consumption of tobacco by certain family members, typically parents, on the health of other family members. For example, smoking or other exposure to tobacco use during pregnancy can impair the health of the fetus with serious residual effects on the subsequent health of the child. In addition, Cohen (1981) has reported that in Bangladesh family resources are used to purchase tobacco by adults (fathers) rather than food. As a result, the nutritional status and ultimately the health of their children may be compromised. Similar situations may arise in other countries. As a general rule, intra-family externalities are difficult to evaluate because given limited resources, consumption by some family members, whether in the form of tobacco or as other goods, must be at the expense of other family members.

Lack of Risk Awareness

An important condition for optimal decisions by

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developed countries has frequently resulted in inconsistent estimates and the prevalence-based human capital cost of illness approach has been used largely by default because of the availability of the data to perform the calculations and the apparent consistency of estimates when the method is applied carefully.

The so-called "incidence" based approach is another procedure that has been used to estimate the cost of smoking induced illness (Oster, et al., (1984a, 1984b)). Following this procedure, the economic costs of smoking are modeled as the average additional costs per smoker that will be incurred over a smoker's lifetime due to specific smoking induced illnesses. Estimates can be made of both the direct (medical care expenditures) and indirect (lost wages, salaries and housekeeping services) economic costs of smoking and of the benefits of quitting. The estimates, as derived by Oster, et al., for lung cancer, coronary heart disease, and emphysema, are the present discounted value of a future stream of expected additional lifetime costs resulting from the excess risk of occurrence at any time in the future of smoking related diseases in persons who smoked in 1980 and continued to smoke in the future. The benefits of quitting are similarly estimated as the difference between the cost of smoking estimate and a similar stream of expected costs for former smokers which reflects the gradual rate of decline in their increased risk for these diseases.

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continued, but in addition, smokers are increasingly giving up cigarettes and fewer non-smokers are taking up the habit.

There is little information on the effects of health information on tobacco use in LDC's, but the reports from many different developed countries echo the U.S. experience. Doll (1981) reported for the U.K. that not only has cigarette consumption declined, but also the shift to lower tar cigarettes has been substantial and has resulted in a decline in lung cancer death rates in males.

Interestingly, there has accumulated evidence from several European countries suggesting that just the discussion of smoking and health policies can have a noticeable effect on smoking. Leu (1986) reports that not only did smoking decline in Switzerland following the health disclosures but it declined even more substantially following a public referendum in 1979 on a complete advertising ban despite the fact that the ban was defeated at the polls. There is evidence from Norway of a similar phenomena. Norway instituted a comprehensive smoking control program in 1975, however, the upward trend in smoking in Norway was reversed in 1970, the year the program was debated and endorsed in the Parliament (Bjaretveit, et al., 1981).

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Impressive as the evidence is for information dissemination programs, such approaches have been criticized

Today, some people continue to smoke because they are unaware of the health consequence of smoking. In developed countries, smokers may be aware that cigarettes are dangerous but may be very uncertain as to the actual extent of the risk involved (Warner, et. al., 1986). In less developed countries without health information initiatives, many smokers may be largely ignorant of the existence of any risk. Informational strategies to correct this lack of knowledge are desirable because they are non-coercive and they will help consumers make better decisions. They implicitly recognize the prerogative of informed consumers to make choices about their lives and to engage in risky behaviors if they want. At the same time, they recognize that consumers cannot trust in their own decisions if they are not informed.

Evidence on the effects of the dissemination of information on the hazards of smoking in developed countries suggests that consumers value such information and react to it in making consumption decisions. In the U.S., many studies have been made of the impact of the "anti-smoking" campaign--a series of government and private initiatives that began in the early 1950's with the initial disclosure of the association between cigarette smoking and lung cancer in reports by the American Cancer Society and the British Medical Research Council. This was followed by the U.S. Surgeon General's Report in 1964 and a semi-official

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considers vital statistics from most LDC's to be unreliable and incomplete.' In some LDC's, recently reported increases in deaths from lung cancer have coincided with rising rates of death from all cancers leading some to speculate that the changes in cancer death rates reflect increases in reporting as much as increases in the incidence of the disease itself.

More important conceptually, however, is the fact that the competing causes of illness and death in many LDC's are different from those found in most developed countries. Given the current level of knowledge, generalizations about the probable impact of smoking in LDC's, as a group, are fraught with uncertainty. For example, several of the most important smoking induced illnesses identified in developed countries are typically not experienced with frequency until age 50 in males and later in females. Accordingly, in those LDC's, principally in Sub-Saharan Africa, where life expectancy at age 15 still does not exceed 50-55 years, it is unlikely that the toll of these illnesses will be substantial or easily identifiable.

The majority of LDC's, however, have already experienced the epidemiologic transition and have entered the phase of development where life expectancy after childhood has improved substantially because of the control of infectious diseases. In these countries, it may be possible to identify the smoking induced illnesses identified in developed

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that activity. Externalities may result in inefficiencies because market prices do not take these side effects into account in allocating resources. In the case of tobacco use and particularly smoking, the benefits of the activity stay with the smoker while some of the negative consequences are borne by others. These externalities fall into two groups, financial externalities and passive consumption externalities.

Since tobacco use can lead to premature illness and death, it can result in significant financial externalities. These externalities may arise because in the institutional framework of many societies, the health costs of smoking induced illnesses are borne by non-smokers as well as smokers via health insurance and disability programs. In such situations, smoking not only imposes a financial burden on non-smokers but also is subsidized because smokers do not bear the full costs of their consumption. The existence of such a financial externality presents a very compelling argument for government intervention.

Only the net costs of smoking not borne by smokers result in financial externalities. Moreover, a thorough accounting of all smoking induced externalities is necessary before the net financial externality can be determined. For example, smokers may consume more than their fair share of health care but compensate for this by leaving unclaimed

information dissemination difficult. Government intervention to supply the necessary information would appear justified.

Dependency/Addiction

It is frequently alleged that because tobacco use can or frequently does lead to addiction, it is associated with market failure. This "market failure" is said to result from the fact that habitual smokers can no longer make "rational" choices about smoking.

The primary evidence in support of the "irrationality" of tobacco use is the observation that many smokers in developed countries report that they would like to quit but that they can't (Warner, et al., 1986). The experience, however, of millions of smokers following the disclosure of the links between cigarette smoking and disease in the early 1950's suggests that smokers are able to modify their behavior in the light of new information about the dangers of smoking. Moreover, in addition to the millions of smokers who quit smoking completely, most continuing smokers responded to the information on the dangers of smoking by changing the type of cigarette they smoked. The ambivalence of current smokers regarding their behavior appears to result from the difficulty that arises in choosing between two undesirable states - tobacco deprivation and ill health.

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Warning labels are required in almost all developed countries (Table 3) and in many developing countries including India, Egypt, Mexico and South Korea. Interestingly, they are required in many Eastern European countries including the U.S.S.R. but not in China. The actual content of the warnings and their size is variable. In Japan, smokers are advised "not to smoke too much". On the other hand, Sweden has the most sophisticated labelling scheme whereby 16 different specific health warnings are rotated at random on cigarette packs. The intent of the 16 warnings system is both to convey more health information to smokers and create interest in the labels because of their variety. The U.S. and other developed countries have recently adopted the revolving label scheme (Lewit, 1985).

Evidence of the specific impact of warnings on smoking behavior is limited because warnings are frequently introduced or strengthened as a part of a larger smoking control program. Accordingly, it is impossible to distinguish the effect of the warnings themselves from other interventions. In addition, the effects of the warnings may be cumulative and gradual, affecting primarily marginal smokers and initiates. Lastly, for warnings to be effective they should impart correct information. An understated warning, as is found in Japan, may actually lead people to underestimate the dangers of smoking.

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consumers is that they be aware of the consequences of their actions. Observation suggests that it is reasonable and rational for individuals to take certain risks, but it is impossible to assert that participation in hazardous behavior is desirable if participants are unaware of the risk involved. As tobacco use is hazardous, we cannot be sure that tobacco consumers are acting in their best interests unless they understand the consequences of their behavior.

It should be noted that while the conceptual notion of an informed consumer making rational choices is an attractive paradigm, assuring this event in the real world is problematic. In particular the acquisition of information about products is costly, and as a result, consumers will economize on the acquisition of information. Moreover, the traditional consumer procedure of acquiring information by sampling is unlikely to yield information about the deleterious effects of tobacco use. Similarly, it is not to be expected that left to their own devices, suppliers of tobacco products will inform consumers of the risks of consumption. They may, in fact, attempt to misinform consumers about the dangers of tobacco use. Accordingly, there is reason to believe that consumers will, in the absence of government intervention, be less than optimally informed about the consequences of tobacco use and that this may be particularly true in LDC's where experience with the consequences of tobacco use may be limited and

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countries; however, the relative importance of these illnesses is tempered by the competing role played by illnesses of less importance in developed countries. Differences in disease incidence can even be seen among developed countries with high levels of smoking. For example, cancer death rates in Japan and the U.K. are approximately equal. Yet, 43% of Japanese cancer deaths in 1970 were due to stomach cancer while stomach cancer accounted for only 12% of cancer deaths in the U.K. in the same year. In the U.K., lung cancer accounted for 27% of cancer deaths in 1970 compared to only 9% of deaths in Japan in the same year (Preston, 1972). Per capita cigarette consumption was approximately equal in the two countries (though historically higher in the U.K.); other factors (genetics, diet) may account for these differences. The scant data available from several LDC's suggests that competing causes of mortality may also complicate comparisons for these countries. In Egypt, nearly one-third of malignant neoplasms reported in 1976-77 were sited in the bladder, compared to just over 1% in the lung (Ibrahim, 1982), and in many other countries in Africa and Asia, both liver and stomach cancers are important causes of death. Although tobacco use has been identified as increasing the risk of developing cancers in sites other than in the respiratory tract and oral cavity, the full impact of tobacco use in the presence of different competing sources of illness requires further investigation. Moreover, the need for more

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Because of their low cost, package warnings are an extremely attractive policy instrument for LDC's. They have several drawbacks however. First, if levels of literacy are low, written warnings may not reach much of the vulnerable population. A similar problem arises if several different languages are used by different population groups. Combining written warnings with graphic warnings would be more effective. Second, warnings cannot be effective if they are not seen by consumers. In LDC's, tobacco is frequently consumed in forms other than manufactured cigarettes or manufactured cigarettes are removed from their packages and sold individually, in both instances limiting the exposure of smokers to health warnings.

RESTRICTIONS ON ADVERTISING

Just as nations differ in their requirements for labelling tobacco products, they also have different policies on cigarette advertising. Several countries have total bans on all forms of advertising but many merely restrict advertising (Table 3). Bans or limitations on broadcast advertising are most common and many countries attempt to monitor the content of advertising and require that health warnings be included in advertisements. LDC's such as Brazil, Egypt, Zimbabwe, Taiwan and Mexico have partial advertising bans while the Eastern European Countries, the U.S.S.R. and China have complete bans.

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SUMMARY

This paper examines tobacco control policies for less developed countries. The need for tobacco policy arises because tobacco consumption is an important cause of illness and premature death. Tobacco consumption, primarily as manufactured cigarettes, increased steadily in developed countries in the first half of this century but appears to have peaked and to be declining. Tobacco consumption in less developed countries (LDC's) seems to be increasing, although the situation varies by country. Concern about the health consequences of tobacco consumption in LDC's has sparked calls for appropriate tobacco control policies in these countries. Although it is likely that increases in tobacco consumption in LDC's will have a deleterious effect on health, little is known about the quantitative impact of tobacco and even less about the costs and consequences of various tobacco control policies in these countries. Accordingly, this paper, drawing where possible on evidence from less developed countries, develops an economic framework to evaluate tobacco policies and discusses different policy options based largely on experience in the more developed world.

The neo-classical welfare economics framework is employed to examine a variety of policy options affecting both the demand for and supply of tobacco products. This framework is useful in this context because it is designed to help evaluate choices between various alternatives when not all desirable ends are simultaneously obtainable. A basic tenet of this approach is that given information about product characteristics and prices, consumers will make purchases so as to maximize their well-being. Where markets function well and consumers make optimal decisions, it may be that some consumers will engage in risky activities such as smoking, but there will be little cause for government intervention. The need for government intervention arises, however, when several basic conditions of the optimizing process breakdown. It is argued that such breakdowns occur in the market for tobacco products because of 1) a lack of provision of information on the dangers of smoking; 2) externalities that arise because of the interplay of tobacco use and the social system; 3) the addictive nature of tobacco use; 4) the need to protect non-smokers including children; and 5) subsidies to tobacco production and taxes on tobacco consumption which constrain responses in markets for tobacco.

Among the demand oriented policies discussed are those intended to increase consumer awareness of the dangers of tobacco use. These include requiring that tobacco products carry warning labels, restricting tobacco advertising and promotion, and educating the public to the dangers of tobacco use. All three have the potential to redress the problem of consumers being inadequately informed about the dangers of

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support the notion that cigarette advertising has little or no marginal effect on aggregate demand. This research, however, cannot be used to assess the aggregate effect of advertising in either of these countries or in developing countries. Cigarette markets in the U.S. and the U.K. are characterized by competitive rivalry among a limited number of large firms. These firms advertise in order to increase demand for their specific products. From each firm's perspective, it is immaterial as to whether the increase in demand represents new smokers or brand switching by established smokers. Each firm's competitive advertising provokes a response from its rivals, and as a result the level of advertising by all firms may well increase beyond the point at which it influences aggregate demand. In such competitive markets, individual firms may not be able to reduce their advertising for fear that they will lose customers to their rivals although all firms would be better off if they could collude and collectively reduce their advertising expenditures below the level of zero marginal response. Econometric models are designed to measure responses on the margin. That they generally find no effect of cigarette advertising on aggregate demand in established cigarette markets may merely reflect the nature of the markets during the time period for which they have been estimated.

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Critics of the cigarette manufacturers tend to view the

Many governments take a paternalistic position regarding the use of tobacco by children. The use of tobacco by teenagers is banned in most states in the U.S. (Lewit, 1985) and recently, smoking by teenagers has been publicly discouraged in advertisements of some cigarette producers (Warner, et. al., 1986). Ironically, in the U.S. and other developed countries, the use of tobacco is initiated almost exclusively during the teenage years frequently by individuals who possess a knowledge of the dangers of tobacco use, but who believe that they will be able to give up tobacco before their health deteriorates significantly. These teens may be underestimating the full danger of tobacco use as a result of underestimating the difficulty of quitting when they get older.

Cultural differences and different patterns of cigarette consumption suggest that significant intercountry differences can exist in attitudes toward children and their smoking behavior. Typically, children are more plentiful in LDC's than in developed countries, and they face significant health risks whether they use tobacco or not. Because of high level of competing priorities for children in many poor countries and the long period of time required before intensive smoking control programs directed at children will pay off, the value of smoking control programs directed toward children in these countries is difficult to determine. Suffice it to say that effective smoking control programs directed at the

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significant hardships for persistent smokers.

Children

Although aspects of the general normative model may apply to children as well as adults, most modern societies treat children differently than adults. In particular, a child's prerogative to engage in risky behavior is typically curtailed; parents are frequently held accountable for their children's actions; and parents and other adult authority figures are given more control over children's behavior than they typically have over the behavior of other adults.

This special treatment of children results from their special vulnerability. Not only are they typically physically more vulnerable than adults, but because of their lack of experience and knowledge, they may be less able to make appropriate decisions in many circumstances. To use the paradigm we have relied on thus far, children may not be able to make informed optimal decisions because they lack adequate information and because they are frequently not able to act rationally (they cannot evaluate the consequences of their actions). As a result, government policies which restrict the prerogatives of children for "their own good" may be justified.

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INTERNATIONAL EXPERIENCE WITH CIGARETTE ADVERTISING BANS***Selected Source Materials***

Note 1 -- President's Council of Economic Advisors, *Economic Report of the President* 186 (1987)

Note 1 -- Statement of FTC Chairman Daniel Oliver, *Advertising of Tobacco Products: Hearings before the Subcomm. on Transportation, Tourism and Hazardous Materials of the House Comm. on Energy and Commerce*, 100th Cong., 1st Sess. 23 (1987)

Note 2 -- K.O. Götestam and K.G. Götestam, "Smoking and Attitudes Towards Smoking in Norway," *Tidsskr Nor Laegeforen*, 1990; 110: 2260-1

Note 3 -- K.O. Götestam and K.G. Götestam, "Changes in Smoking Legislation, Attitudes, and Behavior," *Psychological Reports* (1992) 70: 531-7

Note 4 -- Rimpelä, Rimpelä, Hara-Eteläharju, Pykäri, Siivola & Karvonen, *Young People and Smoking 1973-1989*, University of Helsinki, Department of Public Health Science, Publication 2/1989 (1989)

Note 4 -- Rimpelä, Rimpelä, Karvonen, Rahkonen, Siivolva & Kontula, "Changes in Adolescents' Health Habits 1977-1987: Preliminary Report to the National Board of Health" (May 1987)

Note 7 -- Swedish National Smoking and Health Association, *Smoking Control in Sweden* (1983)

Note 8 -- National Board of Health and Welfare, *Tobacco Control in Sweden* (1987)

Note 15 -- M. Paavola, J. Tikkanen, A. Heloma & K. Koskela, "Research on Attitudes Toward Smoking in Finland," *Suomen Lääkärilehti*, p. 721, August 1991.

Note 16 -- Aarø, Hauknes & Berglund, "Smoking Among Norwegian Schoolchildren 1975-1980," *Scandinavian Journal of Psychology* (1981) 22:(3), p. 161

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industry monolithically and as a result tend to overlook the competitive nature of the industry. In the U.S., cigarettes are highly profitable commodities even in the current increasingly anti-smoking environment. It has been estimated that a cigarette brand need only capture 0.4% of the total market to be profitable (Makenzie, 1986a). Accordingly, the development and promotion of specific brands designed to appeal to specific segments of the U.S. smoking market is an important activity for many manufacturers. As indicated in Table 4, very substantial shifts in the market shares of the various U.S. tobacco manufacturers have occurred in the post-World War II period. These shifts reflect the relative ability of the different manufacturers to capitalize on the shifts in consumer preferences over this time period. Such shifts included strong preferences for filtered and lower tar cigarettes and the increase in smoking by women. Interestingly, Liggett and Myers whose market share had declined most dramatically over the period covered in the table recently reclaimed a larger share of the market by introducing lower price generic cigarettes to appeal to price conscious smokers.

The impact of advertising may be different in fledgling markets where even the spread of information on the availability of cigarettes might encourage smoking. The situation should also be different in countries with government tobacco monopolies. In pure monopoly situations

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where there is no competition, the only purpose of advertising would be to increase aggregate demand. Interestingly, advertising is utilized by many national tobacco monopolies in both developed countries and LDC's. For example, the BAT subsidiary in Kenya is the country's fourth largest advertiser even though it is an officially licensed monopoly. In some instances, advertising by government monopolies may be intended to promote domestically produced cigarette brands as substitutes for popular imported cigarettes and thus may serve a competitive purpose.

Several other factors come into consideration in evaluating policies to restrict advertising. Chief among them is the claim by critics of the tobacco industry that advertising discourages full and truthful reporting of the health consequences of smoking because the media become dependent on tobacco advertising for revenue. As a result it is claimed that rather than increasing the amount of information consumers have about tobacco products, advertising may restrict the availability of crucial information (Warner, et al., 1986).

There has been concern expressed about the impact of cigarette advertising on children (Warner, et. al., 1986). In part, this concern arises because children may find it difficult to properly evaluate the information presented in tobacco advertising (Lewis and Lewis, 1974) and in part

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increase in some countries in response to an advertising ban because of a competitively induced decline in the retail price of tobacco products.

Effects of Advertising Bans

It has been very difficult to assess the impact of advertising bans or restrictions in developed countries and no comprehensive analysis has been attempted for less developed countries. Many "before and after" ban comparisons fail to adequately control for changes in other variables that affect smoking. Other, more sophisticated analyses, are stymied by the fact that restrictions on advertising frequently come into being as part of more general smoking control programs. As a result it is frequently difficult to evaluate the independent impact of advertising restrictions on smoking behavior.

Studies of the effects of different kinds of advertising restrictions in different countries around the world fail to support the argument that advertising plays an important role in the aggregate demand for cigarettes at least in the short run and suggest that in order to judge the impact of advertising bans much longer time horizons may be necessary. For example, U.S. per capita cigarette consumption rose in the early 1970's following the broadcast advertising

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ban as did smoking participation rates of teenagers and women. Since the late 1970's, however, per capita cigarette consumption has been declining. Some observers point to the reduction in broadcast anti-smoking messages that accompanied the ban on pro-cigarette advertising in the early 1970's as reason for the unexpected increase in smoking following the ad ban, but truthfully, this is an instance where too many variables were changing in too short a period of time to be able to evaluate the independent effects of each.

Hamilton (1975) performed a multivariate cross-national study of the effects of cigarette advertising restrictions in eleven "developed countries. He concluded that through 1973 ad bans had not slowed the growth in cigarette consumption in the countries studied. He suggested that smoking education programs would be a more productive use of health promotion resources than would be investment in lobbying for advertising bans.

Much interest in the smoking and health community has focused on the more recent experience in Norway which introduced a comprehensive smoking control program in July 1975. The program included a ban on all forms of tobacco promotion. Per capita sales of smoking tobacco and manufactured cigarettes declined by over 7% in the 6 year period following the implementation of the program. In addition, smoking participation rates of Norwegian teenagers

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discussion regarding the rationale for government intervention and the various demand-directed policies are relevant to the increased risk of fire due to smoking tobacco.

RATIONALE FOR GOVERNMENT INTERVENTION

For many the very fact that tobacco use results in illness and death would be adequate justification for intervention by governments to control the use of tobacco. They would argue that society, via government, has a duty to promote and preserve public health. Valid as this premise may be, it is not an adequate criteria by which to judge or justify various interventions. First, it is not helpful when a choice has to be made between alternative policies intended to increase health in different ways. More importantly, it doesn't help us address the problems that arise when, inevitably, the pursuit of public health comes into conflict with other valued goals such as preserving an individual's right to make choices about his own life.

Economics is concerned with making choices between various beneficial alternatives when not all desirable ends are simultaneously obtainable. Accordingly, the approach of welfare or normative economics may be of value in assessing tobacco control policies. The neo-classical welfare economics paradigm is based on the sovereignty of individual

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as inadequate principally on the grounds that the reductions in smoking haven't been large enough and that people are still not adequately informed about all the risks of smoking (Marshall, 1977). Agreement with these observations notwithstanding, these criticisms appear too harsh as they imply that there are consensus standards by which to judge these policies. If we accept the right of knowledgeable individuals to smoke and recognize that smoking may be addictive for some, we should not be surprised if rates of smoking decline slowly. Similarly, given the costs of acquiring, understanding, processing and storing information, we should not be surprised that the average person, smoker or not, is not fully informed as to all the latest scientific findings regarding smoking and health (Warner, et. al., 1986). In fact, there is reason to believe that individuals would be better able to make informed decisions if they knew a little about the relative risk of many different activities rather than obtaining expert knowledge in a limited area.

Health Warnings

A direct way of conveying information about the dangers of tobacco consumption is by placing health warnings on tobacco packaging and in tobacco advertising. Such a procedure is consistent with other consumer labelling requirements and almost costless.

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television advertising of tobacco products is prohibited but per capita consumption grew at a rate of 5.6% annually over the past 7 years. Cigarette consumption is also growing very rapidly from a very low base in Malawi, an important tobacco producer with no restrictions on advertising. On the other hand, per capita cigarette consumption is falling in Senegal where the government has undertaken strong anti-smoking measures including an ad ban. Similarly, in Zimbabwe, another important tobacco producer, cigarette advertising has been severely reduced under a government program and per capita consumption is falling. In Zambia, where advertising is prohibited, per capita consumption has remained unchanged over the past 7 years.

Although they are conceptually easy to formulate, restrictions on cigarette advertising may be difficult to enforce. For example, although the broadcast advertising of cigarettes is banned in both the U.S. and the U.K., tobacco company sponsorship of sporting and cultural events which are televised results in some promotional benefit for the companies. In Italy, tobacco companies continue to advertise despite an advertising ban. They apparently believe the returns from advertising are sufficiently high so as to justify the relatively low fines they incur. In some LDC's, Papua New Guinea (ToVadek and Jamrozik, 1983) and Malaysia (Teoh, 1983) for example, tobacco companies are very important sponsors of sports teams and cultural events.

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aged 13-15 began to decline from the peak levels they had reached in 1975 following decades of steadily increasing rates of smoking in these age groups. Encouraging as these results may be, because they occurred as a result of a comprehensive smoking control program which included health education in schools and tobacco tax increases, it is impossible to evaluate the independent effect of the advertising ban.

Even less is known about the effect of advertising restrictions in less developed countries. Raemer observed in 1982 that while advertising restrictions were in place in 22 of 31 developed countries, only 5 of 26 LDC's had banned or severely restricted advertising. Evidence from a sample of LDC's suggests that the existence of advertising restrictions per se has had little if any effect on trends in or on the level of cigarette consumption (Table 3). China has one of the highest rates of growth in cigarette consumption per capita (7.8% compounded annually) in the absence of any cigarette advertising. In Taiwan, where broadcast and newspaper advertising of cigarettes is prohibited, but billboards permitted for domestic cigarettes only, per capita consumption is growing at less than half the rate of China. While in Hong Kong, where advertising is only marginally controlled, consumption is falling.

In Africa, the situation is also mixed. In Egypt,

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Regardless of whether these promotional activities actually increase aggregate smoking levels, they probably foster goodwill for the cigarette companies, and attempts to restrict these promotional activities would probably be unpopular particularly if alternative sponsors could not be found. Moreover, evaluation of attempts to restrict these promotional activities would involve a comparison of the marginal effect of the restrictions on smoking behavior and the welfare loss associated with the reduction in the subsidy to previously sponsored events.

Educational Programs

Both broadbased and targeted health education programs have been advocated as tools to reduce tobacco use and the deleterious health effects it engenders (Marshall, 1977). Much has been written about specific educational programs and efforts have been made to develop effective approaches to control smoking in youth and to get adults to quit. Many projects have been undertaken without adequate planning for their evaluation, however, and among the published evaluations the results have been mixed. Given the bias towards publishing positive results, it is reasonable to assume that many attempts have met with little success (Thompson, 1978). Moreover, many of the most successful programs are based on combating culturally specific incentives to smoke, so that they may not be readily

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because of the addictive nature of tobacco use. Unlike some other potentially addictive substances, tobacco typically produces a negative reaction (coughing, nausea, a burning sensation) on first time users. For those initiates who go on to become regular smokers, however, this initial negative reaction is replaced by a positive response to tobacco use which sustains continued use. Because the initial contact with tobacco is likely to be unpleasant, other positive reinforcers may be needed to encourage tobacco use. Among young smokers, peer support and pressure are typically identified as encouraging smoking. It is also possible that tobacco advertising by reinforcing the positives aspects of tobacco use may encourage tobacco use by children. This model of teenage smoking, although based on observations in many developed countries seems to have validity in LDC's as well. For example, in a study in Dakar, Senegal, 55% of school children were offered their first cigarette by friends and when asked "why did you start to smoke", 45% responded "to look like an actor or sportsman" (Femi-Pearse, 1983b).

There have, however, been very few empirical studies designed to directly measure the impact of cigarette advertising on smoking by children and teenagers. An exception is the study by Lewit, Coate and Grossman (1981) of the effect on teenagers of the anti-smoking messages broadcast in the U.S. from 1966 to 1969. Although not robust in all specifications, their results suggest that exposure to

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At the heart of consideration of the efficacy of an advertising ban is consideration of the effect of advertising on the demand for tobacco products. This question is largely unresolved (Warner, et. al., 1986). Advocates of advertising restrictions point out that, not surprisingly, tobacco advertising presents a very favorable picture of smoking and rarely describes the hazards of smoking. They point out that tobacco advertising reinforces a positive social image for smoking and that it might be particularly effective in enticing children to smoke. Lastly, they point to the enormous advertising budgets of the major tobacco companies in the U.S. and elsewhere as evidence that there must be a payoff somewhere (Warner, et. al., 1986).

Apologists for advertising point out that its primary function in the market for cigarettes as in the market for other goods is to inform consumers of the choices available so that they can make appropriate purchasing decisions. Advertising is thus seen as a competitive tool used by rival cigarette companies to increase sales of their specific brands. Accordingly, it is argued that to restrict advertising would reduce the welfare of consumers and freeze producers into those competitive positions they have already obtained (Boddewyn, 1985).

Most empirical studies performed in the U.S. or the U.K.

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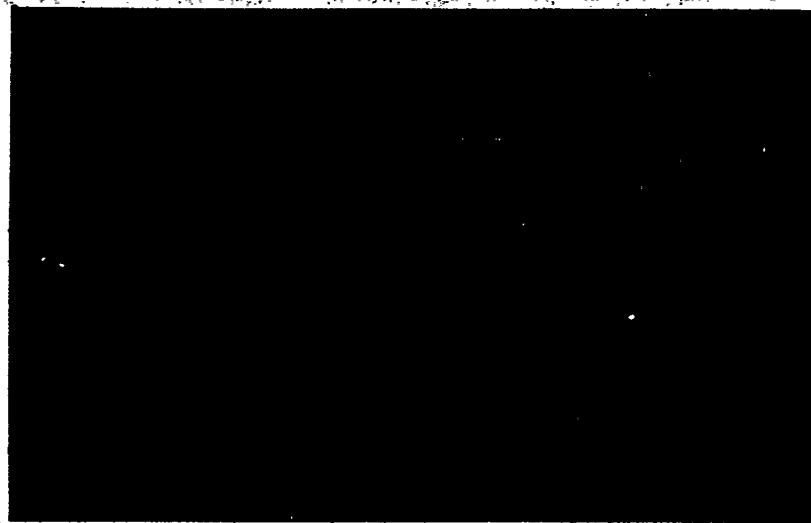
2.) Tobacco Advertising Should be Severely Restricted or Banned: Although there is no solid evidence that cigarette advertising increases tobacco use or that advertising bans discourage tobacco use, the intent of advertising, especially in countries where smoking is relatively rare, is to encourage tobacco use. Allowing tobacco advertising may create a social climate more conducive to smoking generally, and because it helps sends mixed messages to the populous about the true dangers of smoking, it may blunt the impact of health education programs.

The recommendation of an advertising ban is subject to an important caveat, however. It relates to the difference between the effects of advertising in a tobacco market controlled by a government monopoly and in a competitive market. In a monopoly market, the primary effect of advertising, if any, will be to increase consumption and in particular to induce non-smokers to begin the habit. Accordingly, advertising should be banned. In competitive markets, however, advertising may be an important tool of competition. Restricting advertising not only limits a firm's ability to compete and perhaps survive, it also has the effect of lowering the cost of cigarettes. If firms turn from competition via advertising to competition via price or other promotions, the net effect of an advertising ban could be an increase in tobacco use. An alternative to an ad ban would be restrictions on the content and placement of

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One exception to this recommendation might concern health education for children. Because children are typically not habitual smokers, educational programs directed toward children may be more effective than programs directed to adults. In communities where children attend school, the cost of educating them about the dangers of tobacco use may be small and as a result, the payoffs from an effective program large.

This recommendation concerning health education for children is subject to two caveats. First, because there is typically a long delay between the onset of smoking and the onset of related disease, the benefits of smoking control programs targeted to children are subject to substantial discounting and may not be cost-effective when compared with other health programs. Second, it is easy to underestimate the costs of developing and implementing effective smoking control education programs. Much time and money has been invested in developing programs which appear to be effective in the U.S. and other developed countries. There is little evidence, however, to suggest that these programs can be easily transferred to LDC's nor that they will prove effective in differ cultural milieus.

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TAXES ON CONSUMPTION

pro-cigarette advertising tended to increase the likelihood of teenage smoking while anti-smoking messages discouraged smoking even in the presence of pro-cigarette advertising. The results suggest that the airing of anti-smoking messages in the U.S. under the Fairness Doctrine reduced teenage smoking by between 2.1 and 2.7 percentage points, while the ban on broadcast advertising, which lead to a substantial reduction in anti-smoking messages, only reduced teenage smoking by 0.6 percentage points. These results suggest that the effect of broadcast cigarette advertising on smoking by teenagers is likely to be small but that the impact of anti-smoking messages may be substantial.

Arguments against restrictions on advertising include the observation that such restrictions constitute a limitation on the right of free speech. This argument loses force in the many countries where free speech is already limited. There is also some evidence to suggest that advertising promotes the consumption of safer cigarettes. In addition, cigarette advertising may subsidize sports and cultural events as well as the media to the benefit of non-smokers as well as smokers (this is a positive externality). Lastly, and of largely unrecognized importance, in competitive markets advertising increases the cost and hence price of cigarettes and may substitute for price competition. As a result, it is conceivable that aggregate smoking could

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even if the price elasticity of demand for tobacco were known. Governments, however, may find a tobacco tax policy, which yields revenue, to be more attractive than health education programs which are costly. From a welfare economics perspective, however, the approximate equivalence of tax and information policies depends on the tax revenues being returned in one way or another to the taxed. If not, such a tax imposes a burden on smokers that an information program does not in that their disposable incomes are reduced and their ability to substitute other goods for tobacco curtailed.

Externalities which arise when smoking imposes costs on non-smokers may also justify taxes on tobacco. Externalities may arise because of the excess health and disability costs imposed by smokers on non-smokers via governmental or private social insurance plans. Externalities may also arise because of the deleterious effects on some non-smokers' health that result from passive smoking.

A sumptuary tax designed solely to reduce smoking and its related adverse health effects is sometimes advocated by public health groups. Such an approach is based entirely on ethical or paternalistic considerations and economic efficiency considerations are not implied. For example, a special American Heart Association Subpanel recently advocated an increase in the U.S. cigarette excise tax

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Almost all countries levy taxes on tobacco, chiefly on manufactured cigarettes. In addition, in many countries the right to manufacture, distribute and import tobacco products is reserved for a government monopoly. In such countries, the excess profits of the monopoly are a form of indirect taxation on tobacco in addition to the taxes nominally levied.

Taxes may be extracted during most stages of tobacco processing. Import tariffs and customs duties are frequently levied on both raw tobacco and on manufactured tobacco products. Even in LDC's most manufactured cigarettes are made from blends of tobaccos. Such blends frequently require the importation of "American type" blonde tobaccos and oriental tobaccos. As a result, an import duty is included in the price of most cigarettes. In addition, imported cigarettes, usually American or European brands, are popular in many countries. Because of high tariffs, these imported cigarettes typically sell at substantial premiums as compared to domestically produced cigarettes even where domestically produced cigarettes are made of imported tobacco as in Egypt. In addition to import duties, many countries levy specific excise taxes on domestically produced tobacco products as well as VAT and general sales taxes.

Tobacco taxes are an important source of revenue in many LDC's accounting in some cases for 5-12% of all tax revenues.

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TERVEYDENHUOLTO

TAULUKKO 2. Päivittäin tupakoivien miesten ja naisten arvio vuosina 1989 ja 1990 siitä, kuinka pitkä aika kuluisi kunnes tupakoinnista terveydelle aiheutunut haitta olisi poissa (%). Vuonna 1989 kysymys kohdistettiin päivittäin tehdasvalmisteisia savukkeita polttaville (muista tupakkatuotteiden käyttäjä oli 48) ja vuonna 1990 kaikille päivittäin tupakoiville.

Aika, v	Miehet		Naiset	
	1989 (n = 279)	1990 (n = 341)	1989 (n = 200)	1990 (n = 202)
Alle 0,5	19	13	26	25
Yli 0,5 mutta alle 2,0	28	25	31	28
Yli 2,0 mutta alle 5,0	14	18	12	12
Yli 5,0 mutta alle 10,0	6	7	9	5
Yli 10 vuotta tai ei koskaan	13	16	6	8
Ei osaa sanoa	20	21	16	22
Yhteensä	100	100	100	100

vuotiaiden vähentyneen. Harvemmin kuin joka päivä polttavia oli 8 % vastaajista. Tupakoinnin lopettaneita oli miehistä joka neljäs ja naisista noin 15 %. Nuuskaamista tai purutupakkaa eli mälliä ilmoitti kokeileensa vuonna 1990 vastanneista 8 % ja 15—24-vuotiaista miehistä jopa 25 %.

Vuoden 1990 vastausten mukaan miehet polttivat keskimäärin 18,7 ja naiset 12,5 tehdasvalmisteista savuketta päivittäin. Päivittäin tupakoivista 88 % myönsi nykyisen tupakointimääränsä vahingoittavan terveyttään (taulukko 1). Heistä 45 % arvioi yhdenkin savukkeen aiheuttavan terveydellistä haittaa ja 13 % ei uskonut yli 20 savukkeenkaan aiheuttavan mitään terveydellistä haittaa. Naiset olettivat miehiä useammin tupakoinnistaan aiheutuneen terveydellisen haitan häviävän jo puolesta vuodessa (taulukko 2).

Päivittäin tupakoivista 84 % oli sitä mieltä, että tupakkapakkauksissa on riittävästi tietoa tuotteen sisältämistä aineista. Tupakkapakkauksessa olevan varoituksen siitä, että joka vuosi yli 2 000 suomalaisista tupakointisijaa sairastuu keuhkosyöpään muisti päivittäin tupakoivista 57 % ja 15—24-vuotiaista miehistä 87 %. Kuitenkin 82 % sanoi, ettei tämä tieto vaikuta heidän tupakointitottumuksiinsa ja vain 15 % myönsi tiedon vähentävän tupakointiaan.

Vastaajista noin puolet oletti, että kevytsavukkeiden aiheuttama vaara terveydelle verrattuna voimakkaisiin savukkeisiin on yhtä suuri (taulukko 3). Ainoastaan 2 % oletti vaaran olevan paljon pienempi. Alle 25-vuo-

TAULUKKO 3. Vastaajien mielipide (%) vuosina 1989 ja 1990 kevytsavukkeiden aiheuttamasta vaarasta terveydelle verrattuna voimakkaisiin savukkeisiin.

Kevytsavukkeiden aiheuttama vaara	verrattuna		voimakkaisiin (n = 1952) (n = 1902)
	1989	1990	
Pienempi	37	37	
Yhtä suuri	47	50	
Suurempি	3	2	
Ei osaa sanoa	13	11	
Yhteensä	100	100	

tiaat uskoivat muita useammin kevytsavukkeiden aiheuttaman vaaran olevan pienemmän, sukupuolten kesken ei ilmennyt merkitseviä eroja.

Vuonna 1990 työssä käyvistä miehistä 55 % ja naisista 22 % altistui päivittäin tupakansavulle (taulukko 4). Tupakointi oli sallittua 23 %-ssa työtiloista, joissa vastaajat työskentelevät muiden kanssa (taulukko 5). Tupakansavussa työskentelytästä 10 %-lle tupakansavu aiheutti jopa oireita (taulukko 6).

Keskustelua tupakoinnin kieltämisestä oli käyty 24 %-ssa työpaikoista vuonna 1990. Suurin osa oli sitä mieltä, että työpaikalla tupakointia olisi rajoitettava määrätyissä paikoissa tai määrätyinä aikoina (taulukko 7). Naiset kannattivat tupakoinnin rajoittamista useammin kuin miehet.

Vuonna 1990 vastaajista peräti 59 % oli seurannut meneillään ollutta ensimmäistä tuotevastuuopeuden käyntiä tupakkatehtaista vastaan.

Nuorimmat olivat seuranneet sitä väitten. Tupakoinnista käytävää keskustelua tiedotusvälineissä 86 % piti tarpeellisen ja savuttomia tiloja esimerkiksi ravintoloissa, hotelleissa ja kahviloissa pitäisi 64 %n mielestä olla enemmän. Näitä tiloja kaipaavat eniten alle 35-vuotiaat naiset.

POHDINTA

Tutkimuksen tuloksia yleistettäessä on kiinnitetvä huomio luotettavuuteen vaikuttaviin tekijöihin. Koska 2 000 henkilön haastattelututkimus edustaa koko Suomen väestöä, saaduissa luvuissa esiintyy pieniä otantavaihelia. Otantamenetelmä on verrattavissa satunnaisotantaan, eikä otos rajoitettuna puhelimien omistajiin, sillä muille tehtiin käyntihäastateltu.

Kodon määrä ja sen syyt olivat kaikkina tarkasteltavina vuosina suunnilleen samat, joten ne eivät estä vertailua. Kuitenkin ryhmittäin tarkasteltuna (esim. iän suhteen) tulosten vertailujen luotettavuutta heikentävät pienenevät otoskoot, joten varmoja päätelmiä ryhmittäisistä muutaman prosenttiyksikön vaihteluista ei voida tehdä.

Puhelinhaastattelu on tutkimusmenetelmänä aina jossain määrin epätarkka, etenkin kun haastattelijoita on 200. Tämän tutkimuksen luotettavuutta kuitenkin lisää se, että haastattelijat olivat koulutettuja. Mittareina käytetyt yksittäiset kysymykset sekä vastauksista muodostetut prosentti- ja ristiintaulukot antavat ehkäisevä valistusta varten suuntaa-antavan kuvan tupakoinnista ja siihen liittyvistä suhtautumistavoista sekä niiden muutoksista 1988—90.

Tupakointi lisääntynyt lievästi

Päivittäin tupakoivansa ilmoittavien kokonaismäärät ovat yhtenevät Kanterverveyläitoksen postikyselyyn suorittaman tutkimuksen (20) tulosten kanssa. Sen mukaan vuonna 1990 naisista ilmoitti tupakoivansa päivittäin 20 % ja miehistä 32 %. Otoskojen ja tutkimusmenetelmien erilaisuudet selittänevät muutaman prosenttiyksikön erot.

Tupakointi näytti olevan lievästi lisääntymässä. Tätä tukee myös tupakkatuotteiden kokonaiskuluksen

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accounts for some of the variation in the reported estimates. Differences in the level of health care expenditure between the U.S. and Canada would account for 8 of the 10 cent difference in external costs per pack between the U.S. estimate and the high estimate for Ontario. This factor does not, however, explain the differences between the estimates for Switzerland and either the U.S. or Ontario. Because per capita medical care expenditures in LDC's are typically substantially below the levels reported in the table, it is reasonable to believe that the costs of smoking induced illnesses will also be lower in these countries as will be the level of uncompensated financial externalities.

Uncompensated externalities may also be small in many LDC's because: 1) in the absence of well organized institutional support systems, the excess costs of smoking are not likely to be shifted from smokers and their families to non-smokers and 2) the total cost of tobacco induced illness may be low where life expectancy is short or where smoking is a recently introduced activity, or if health care technology is crude and there are many competing sources of disease and mortality.

Tunisia provides an example of the situation in an LDC where tobacco use became popular following World War II and where there is evidence of increasing levels of lung cancer and chronic bronchitis. It has been estimated that the care

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transferable to LOC's.

A review of the evidence from two community scale intervention projects directed towards adults may be instructive. Both the Stanford Three Community Study (Farquhar, et. al., 1981) and the Finnish North Karelia Project (Puska, et. al., 1983) were experimental or quasi-experimental projects designed to evaluate the results of community focused interventions on cardio-vascular disease risk factors including smoking.

The Stanford Project involved three small towns in rural Northern California. One community was used as a reference or control. A two year media campaign was undertaken in the other two communities. Radio and TV spots, a weekly newspaper column and health information materials were used to encourage smoking cessation, diet modification and an increase in exercise levels. In addition, in one community 20% of the adult population received "intensive" classroom instruction in smoking cessation. In all three communities, smoking fell during the three year study period. But only in the small, intensively instructed group was the decline substantially greater than in the control community.

The North Karelia project was an intensive, community-based multiple year risk reduction intervention program in Finland. The project relied not only on a media campaign but

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'argely because the tax increase was viewed as an effective way to discourage smoking, especially among young people (Warner, et. al., 1986).

Limitations of a Tax Policy

Unlike information based policies, tax-based smoking control policies may not meet the criteria for improving welfare. To the extent that taxes are designed to correct market failures resulting from inadequate information and externalities, they will increase welfare. However, many would reject a sumptuary tax designed solely to reduce the level of smoking and smoking related diseases as being excessively paternalistic. In fact, because product-specific excise taxes cause consumers to modify their consumption behavior, they are generally regarded as "inefficient" fiscal instruments as there may be excess welfare costs to consumers attendant to this behavior modification.

Tobacco based taxes also raise questions of equity. In many developed countries, the cigarette tax is regressive with respect to income, and cigarette tax increases fall more heavily on lower income groups. In less developed countries, the situation is varied and not as easily generalized. In many LDC's, cigarette smoking is positively correlated with income so that the cigarette tax burden may actually be progressive or proportional to income. On the other hand,

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government policy of informing consumers of the health hazards associated with smoking. Additional pieces of the U.S. information campaign over the last 30 years included the placement of health warnings on cigarette packages and in advertising, the disclosure of the tar and nicotine content of cigarettes, anti-smoking commercials, a ban on broadcast advertising of cigarettes and most recently a series of annual Surgeon General's Reports highlighting the different health effects of smoking. Altogether these interventions have lead to a substantial reduction in the portion of the population that smokes, and to reductions in per capita cigarette consumption. Because these interventions have followed each other rather quickly, it has been almost impossible to identify the separate effects of each policy despite the use of sophisticated time series analysis techniques (Warner, 1983).

Moreover, as Schneider, Klein and Murphy (1981) have demonstrated the reaction on the part of consumers to the 1953 cancer reports was almost instantaneous and was sustained over time. Per capita annual tobacco consumption rose almost steadily in the U.S. from 7.5 lbs. per capita in 1932 to 12.8 lbs. per capita in 1953, its maximum value. Since 1953, it has declined steadily falling to 7.5 lbs. per capita by 1978. Initially, most of the decline resulted from consumers' switching to filter cigarettes made with less tobacco and hence delivering less tar. This trend has

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interventions in populations where smoking may already be declining. For example, the recently concluded Mr. Fit study in the U.S. was a 7 year, large scale, primary prevention trial designed to measure the impact of intensive intervention on 13,000 35-57 year old males at high risk for coronary heart disease. This was a larger, more expensive, and more carefully targeted study than either the North Karelia or Stanford study. After 72 months, 46% of the smokers in the special intervention group had quit but a surprising 29% of smokers in the control group had also quit. Moreover, the difference in quit rates, 17 percentage points, at 72 months was less than the difference at 12 months (19 percentage points) (Multiple Risk Factor Trial Research Group, 1982). This suggests that intensive interventions which go beyond informing the population of the dangers of smoking may be subject to rapidly diminishing returns. As discussed previously, the evidence from the U.S. and other Western countries suggests that the long run effects of informing the population of the dangers of smoking may be substantial. It is difficult to generalize this observation to LDC's, but it does suggest that educational interventions may be valuable even if not comprehensive and that given the likely scarcity of skilled personnel, programs which reach a large part of the vulnerable population at low cost are likely to be more cost effective than more expensive, intensive interventions.

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not returning the taxes collected to smokers.

The level of taxation on tobacco products is politically determined and in most instances, reflects revenue considerations rather than an effort to redress the inefficiencies and inequities that may result from tobacco use. There appears to be little economic justification for tobacco taxes that exceed U.S. \$.40 per pack of 20 cigarettes or 40% of the retail price of tobacco products. Increases in tobacco taxes may be appropriate, although unpopular, in countries where taxes are very low or where, as in Egypt, cigarettes may actually be subsidized. High taxes may also be useful in countries where few people use tobacco as a device to discourage the initiation of tobacco use.

LIMITATIONS ON SALES AND CONSUMPTION

There are a number of regulatory policies that governments may undertake to reduce the demand for tobacco products. These include restrictions on sales to and consumption by minors, restrictions on merchandising, and restrictions on smoking in public places. Theoretically, the implementation and enforcement of any of these regulations should reduce tobacco use. In practice, evidence of the impact of these policies on tobacco consumption is limited and the costs of effectively enforcing these policies may be

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tobacco advertising and the requirement that all advertisements contain effective health warnings. Such restrictions on advertising will, of course, make advertising much less attractive to firms and they may voluntarily limit the amount of their advertising. In truly competitive markets, however, firms may continue to advertise in order to capture market share. Such advertising may then become a relatively inexpensive vehicle for public education on the dangers of smoking.

3.) Educational Programs: Every effort should be made to advise the population of the many dangers of tobacco use via the media and other forms of inexpensive information dissemination. There is reason to believe, however, that expensive, targeted tobacco control programs may not be justified in many LDC's. Justification for this observation is found in the evidence from several large community-based studies from developed countries which suggest that marginal effects of targeted intensive interventions may be small in adult populations who already have access to information about the dangers of smoking. In addition, the resources available in most LDC's for intensive interventions are quite limited. Accordingly, given the large number of competing, serious health problems in many LDC's, and the uncertain probability that intensive interventions will substantially increase health levels, intensive interventions may not be justified.

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Effect of Taxes on Consumption

There are few studies of the effects of taxes on the consumption of cigarettes and other tobacco products in LDC's. Studies from the U.S., the U.K. and Switzerland all suggest that the price elasticity of demand in these countries is in the range of -0.4 to - 0.6 (a 10% price increase will result in a 4 to 6% fall in the quantity demanded). An important implication of a price elasticity less than one is that since price rises more rapidly than quantity falls total revenues and total tax collections increase in response to a tax increase although quantity smoked declines.

A study by Lewit and Coate (1982) suggests that in the U.S. much of the reduction in cigarette demand that would accompany a cigarette tax increase would result from encouraging smokers to quit and discouraging non-smokers from initiating the habit. In a related study, Lewit, Coate and Grossman (1981) demonstrated empirically that teenage cigarette consumption is more responsive to price changes than is the consumption of adults and that young adults are more price responsive than middle-aged adults. This finding is consistent with the notions that as a group teens and young adults are less likely to have become habitual smokers and hence might be more responsive to price fluctuations, and that young people have less disposable income than older

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They are popular primarily because their administrative cost is low relative to the revenues generated. These taxes are relatively easy to collect because during manufacturing most tobacco passes through a limited number of physical locations (cigarette factories and/or ports of entry). Cigarette taxes account for a significant percentage of the retail price of cigarettes in many countries (Table 5). Taxes amount to approximately 75% of the retail price of cigarettes in Canada, the U.K., Brazil and Chile and amount to at least 40% of the retail price of cigarettes in a large number of other countries including Indonesia, Zimbabwe, India, Venezuela, and Columbia.

In several countries the retail price of tobacco products is determined by the revenue demands placed on the tobacco monopoly by the government. For example, until recently retail cigarette prices in Tunisia were set at 125% of the revenue requirement established for the government monopoly. Accordingly, 80% of the monopoly's revenues were allocated to the government and 20% to the costs of running the monopoly. As the monopoly controlled all aspects of the tobacco industry in Tunisia including growing, manufacturing, exporting, importing, and wholesale distribution, this 20% was allocated among all of the factors in the industry. In other countries with government tobacco monopolies, the monopolies may determine the margins received by retailers as well as the prices paid to the various factors

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of production. Because these prices are frequently set administratively, it is difficult to judge the net profitability of the government tobacco monopoly or to determine the extent of the subsidies that may be paid to the various factors of production.

In some countries, however, tobacco taxes are low or nonexistent. In the U.S. the federal cigarette excise tax amounts to only 15% of the retail price of cigarettes (the combination of federal, state and local taxes accounts for over one third the retail price). In Malawi, taxes amount to only 25% of the retail price of cigarettes and in Korea, a major tobacco and cigarette producer, there are duties on imported tobacco products but no taxes on domestically produced products. In Togo, taxes amount to only 5 to 8% of the retail price of cigarettes. A somewhat unusual situation exists in Egypt which imports all its tobacco but manufactures most of its own cigarettes. Various import duties and taxes are levied on the imported tobacco but until recently domestically produced cigarettes were sold by the government tobacco monopoly at prices below the cost of production. This resulted in excess demand and queues for cigarettes were common place. Recently, the price has been increased, production increased and the excess demand situation has been eliminated (U.S. Dept. of Agriculture, 1985g).

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difficult to evaluate the observed consequences of his production decisions.

In addition, it is appropriate to ask whether there is a divergence between the private optima sought by tobacco producers and social costs and benefits. For example, the imposition of a tariff on imported tobacco or tobacco products may increase the prices and incomes received by domestic tobacco producers and may induce them to divert resources from the production of other goods to the production of tobacco. Although this may be an optimal redeployment of resources from the perspective of the producers, it may not be socially optimal as the higher tobacco prices are ultimately paid by domestic consumers of tobacco products. As a result, where tariffs and subsidies exist, it may be difficult to determine the extent to which the observed level of tobacco production is socially desirable or should be encouraged.

Externalities associated with the production of tobacco may also lead to a divergence between what is best for the producer and for the society as a whole. The production of tobacco has been associated in certain countries with costs such as deforestation or environmental contamination that are not borne directly by the tobacco growers. In addition, it is alleged that in poor countries with significant malnutrition problems tobacco production may displace food

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of Tunisians with lung cancer and chronic bronchitis cost the government sponsored health care system 432,000 Dinars in 1982. Net government revenues from the Tunisian tobacco monopoly amounted to 75 million Dinars in the same year. These cost of illness estimates do not include all tobacco induced illness, but even if they were understated by a factor of two or three, revenues would still be more than fifty times expenses (Chabbou, et. al., 1984).

Tunisian health officials, concerned about a rising trend in the level of smoking related disease in their country, have argued that "if the proportion of consumers increases the profit/expense differential will tend toward zero" (Chabbou, et. al., 1984). It is not obvious, however, that an excess burden will ever develop in Tunisia because of the growth in smoking related diseases. The excess health care costs generated by smoking are a function of the number of smokers, the excess prevalence of illness among smokers and the costs of treating the excess illnesses. The net excess burden, however, depends in addition on the rate of tobacco taxation. With a sufficiently high level of taxation, such as is found in Tunisia, an excess burden may never develop. In addition, the crucial time dimension which the Tunisian authors ignored may be important in a number of LDC's. Tax revenues from smokers will frequently be received over a period of time before the adverse impact of smoking on the health care budget becomes significant. Accordingly,

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Intelligence Unit, 1983). These operations can be expanded to meet demands created by supply restrictions. In addition, international cigarette smuggling is already a problem in a number of LDC's and might expand to meet unfulfilled demand if supply were restricted. (4). Moreover, the limited success of drug control programs directed at cocaine, marijuana and heroin in a number of developed countries suggests that it is easier to legislate than enforce controls on the use of psychogenic substances. At best, controls on supply will raise the "real" price of obtaining tobacco products and as a consequence reduce consumption. Thus, the effects on consumption of direct controls on the supply of tobacco products should be similar to the effects of a high tax on tobacco products. Like a high tax on tobacco products, policies which restrict supply will also impose significant burdens on consumers of tobacco products.

Second, the observation implies that tobacco consumption in a specific area is dependent on tobacco production in that area. However, since tobacco is traded both internationally (about 25% of world production is exported) and domestically, there need not be a geographic relationship between production and consumption. Evidence of divergence between production and consumption can be found in many countries. Egypt is an example of a less developed country where the consumption of cigarettes is high and rapidly growing

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Conclusions and Recommendations

Information based policies to control tobacco use have many desirable attributes. They are non-coercive and reinforce an individual's prerogative to control his own life. They improve market function. In addition, they can have an important impact on tobacco use and tobacco induced illnesses, particularly in the long run.

Specific Recommendations Are:

1.) Labelling of tobacco products All tobacco products should be labelled with a health warning. The warnings should be factual, understandable and easily read. As there are so many hazards associated with tobacco use, a system of relatively short rotating warnings would appear to be necessary to convey most of the relevant information.

Warnings should be intelligible to the population. Printed warnings should be large enough to be noticed and easily read. They should be worded to be easily understood. As illiteracy is high in many LDC's, a pictographic warning may be of value. It should appear with the written warning and be appropriate for the population to whom it is directed. If tobacco advertising is allowed, warnings should be incorporated as a significant part of each advertisement.

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restaurants, theatres, public transportation and even the work place. Such bans have been adopted in many states and localities in the U.S. and in many other countries, including several LDC's. It is felt that such bans may actually reduce smoking by reducing the number of opportunities smokers have to indulge. In addition, by separating smokers from non-smokers such restrictions may eliminate an important stimulant that encourages the initiation of smoking by non-smokers and recidivism by former smokers. In Finland, this policy has been carried furthest in that smoking in public is universally prohibited except where it is specifically allowed (Roemer, 1983). Again, such policies impose burdens on smokers. They are rationalized largely by the political power of anti-smoking groups. No studies of the costs of enforcement, gains to non-smokers or costs to smokers have been undertaken (Gelband, et al., 1986).

Conclusions and Recommendations

On the surface, government limitations on the sales and consumption of tobacco products appear attractive because their purpose is to protect non-smokers from the dangers of smoking. It is further claimed that they may change the social environment that supports the use of tobacco products and hence hasten the decline in their use (Roemer, 1983). Whether such regulations can, in fact, lead to changes in behavior or whether they merely codify changes in behavior

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There are other limitations of tax based tobacco control policies. First, high rates of taxation may encourage smuggling and other illegal activity. Different sources report that as much as 25% of all cigarettes consumed in Nigeria (Femi-Pearse, 1983a) and Columbia (U.S. Dept. of Agriculture, 1985b) may be contraband. In addition, international trade statistics indicate that aggregate world wide exports of manufactured cigarettes substantially exceed imports and there is reason to believe that smuggling is the main cause of this disparity (U.S. Dept. of Agriculture, 1985d). Second, high rates of taxation may only encourage a shift in consumption patterns to home-grown and home-manufactured cigarettes, roll-your-own cigarettes, chewing tobacco and other psychogenic substances. When these substitutes are as harmful as cigarettes, this shift may negate any beneficial health effects that might result from the tax-induced reduction in the consumption of manufactured tobacco products. Third, the use of high tariffs on imported cigarettes or tobacco may encourage and subsidize the development of a domestic tobacco industry.

Conclusions and Recommendations

There is a role for tax policy in the control of tobacco use but determining the appropriate level of taxation is

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production and exacerbate malnutrition (UNFAO, 1985). In less developed countries the production of tobacco may also be associated with positive externalities including principally the development, introduction and dissemination of modern agricultural techniques. In addition, the cultivation of tobacco may lead to increased investment by multinational companies in LDC's with a resulting increase in incomes generally.

The Current Situation

Today tobacco is grown in over 120 countries. It is the most widely grown non-food crop. Tobacco is grown in most developing countries and the share of tobacco production accounted for by developing countries increased to 63% of world production in 1978-81 from 58% in 1972-74 and only 50% in 1961-63. Most tobacco is consumed within the country of production with only 25% of world production being traded internationally. Tobacco is traded internationally primarily as a "raw" commodity with only certain developed countries (the U.S., U.K., and the Netherlands) being important sources of exported cigarettes.

In many LDC's, tobacco production is concentrated on very small farms in limited geographic areas. Although tobacco is frequently grown in rotation with other crops, because of the value of the typical tobacco crop, tobacco is

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tax (price) increase by switching to lower-priced cigarettes. Other, perhaps more marginal, consumers may switch to roll-your-own or home-made cigarette substitutes or even chewing tobacco. In addition, in some countries high levels of taxation encourage smuggling and other forms of tax evasion which may provide lower-priced substitutes for fully priced (fully taxed) cigarettes.

Rationale for a Tax Policy

High taxes on tobacco products are sometimes advocated as a desirable instrument to reduce tobacco use. One rationale for using tobacco taxes to curtail tobacco use is that in the absence of adequate information about the health effects of smoking, individuals may underestimate the true cost of smoking and as a result, smoke too much. A tax which increased the price of cigarettes would send a signal to consumers that smoking is more costly than they had perceived and the resulting reduction in smoking may increase welfare. In particular, as long as the price elasticity of demand is not zero, it is theoretically possible to achieve via tax policy the same amount of reduction in tobacco use that would result from an effective health education program. In practice, it would be difficult to determine, *a priori*, the effect on demand of an effective health education program and therefore difficult to select the appropriate tax rate.

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difficult. For example, a primary justification for a tax-based policy is that a portion of the cost of the excess illness, morbidity and mortality caused by tobacco use is borne by non-smokers. The magnitude of this burden in any country is determined primarily by the institutional framework of that country. Put simply, the key variables are the amount of excess tobacco related costs borne by non-smokers and the rate of taxation on tobacco . In reviewing the situation in Ontario in 1978, Stoddert, et al.(1986) found that, even with a government health care system and high tech medical care, health care expenditures attributable to smoking amounted to at most 30% of the tax revenue on tobacco products. They concluded that no uncompensated externality existed in Ontario in 1978. Similarly, Leu and Schaub (1984) reviewed the situation for Switzerland in 1976 and concluded that "the external costs of smoking are considerably smaller than is often believed because roughly 75% of smoking-related costs are private costs to the smoker".

Estimates of the external costs of smoking in Ontario, Canada, Switzerland and the United States are presented in Table 6. There are several factors which account for the differences in these estimates including differences in estimation techniques, disease incidence, smoking patterns, medical practice and social insurance arrangements. The level of medical care expenditure, column 3, probably

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people and thus are more likely to exhibit greater price elasticities of demand for a wide range of products including tobacco. These results suggest that the price elasticity of demand for cigarettes might be higher than -0.4 to -0.6 in developing countries where incomes are low and established smokers represent a small portion of the population. The recent experience in Brazil where per capita cigarette consumption fell substantially after years of rapid growth in response to large cigarette tax increases and a general economic slow down further supports this notion (U.S. Dept. of Agriculture, 1985e). There is also additional evidence that income levels may play an important role in determining smoking behavior in developing countries. As for example, the rapid increase in smoking in China has been attributed to rapidly rising incomes particularly in rural areas (U.S. Dept. of Agriculture, 1985b) while recent declines in per capita cigarette consumption in Zaire, Peru, and Bolivia have been attributed to falling national incomes in these countries (Chandler, 1986).

In most LDC's, the price elasticity of demand for all tobacco products may be difficult to measure and may be much lower than the price elasticity of cigarettes. This is because in response to a tax increase, smokers may substitute lower-priced tobacco products for heavily taxed cigarettes. In many LDC's, there are a variety of cigarette brands that sell at a wide range of prices, and smokers can respond to a

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finance tobacco growing. The extremely favorable conditions of sale offered tobacco farmers are not usually offered growers of other crops. As a result, much of the risk of tobacco growing is shifted from the farmer to the purchaser.

It is difficult to evaluate the production side of the tobacco sector in many LDC's because of the heavy involvement of governments and large multinational tobacco companies in the tobacco market. Government and multinational company activities include controls on planting, production quotas (guaranteed prices, incentives and subsidies), export and import duties, internal taxes on sales, state tobacco monopolies, state trading in tobacco, foreign aid programs and limitations on marketing. The mix of activities varies by and among producing countries and makes it difficult to generalize about their tobacco sectors. In the discussion that follows, I touch on the likely effects of most of these policies without dealing with the specific situation in individual countries. My purpose is to indicate the effects these policies have on tobacco production and consumption and to examine their implications for policy formulation.

Tobacco and the Price of Cigarettes

Although, by definition, tobacco is a necessary ingredient in the production of tobacco products, the cost of

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there are frequently a large variety of cigarettes at a wide range of prices in LOC's. The high-priced cigarettes are frequently imports or copies of foreign brands which are heavily taxed. Low-price, low-tax cigarettes are available for those whose budgets are more limited. Thus, across-the-board tax increases may fall more heavily on those least able to afford them. Of particular concern should be the suffering that might be imposed on these smokers and their families who live at the subsistence level. Lastly, regardless of a smoker's ability to pay, a tax-based policy raises the question of the "fairness" of taxing "addicted" smokers as the consequence of such a tax would be to reduce their incomes without any offsetting compensation.

A more subtle limitation of tax-based tobacco control policies are that they encourage the dependency of governments on tobacco products as sources of revenue. This dependency may act to discourage other policies to control smoking as the success of these other interventions would result in a reduction in tax revenue. Ambivalence regarding tobacco control policies may be even greater in countries where tobacco is a government monopoly enterprise. In these cases, the goals of profit maximization and health promotion may conflict. Moreover, that government enterprises were producing and distributing tobacco products might cause consumers to discount information on the deleterious effects of smoking.

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frequently an important source of income not only for the growers but also for their families and local agricultural workers. As compared with most other crops, tobacco uses little arable land but is labor intensive. Its ability to create rural employment is valued in areas where labor is plentiful and productive alternatives scarce. In several countries, literally millions of individuals are involved in or dependent on some stage of the tobacco production process for an important portion of their livelihood. In addition, as tobacco production is frequently geographically concentrated, the dependence of certain geographic regions on tobacco may be substantial.

Observers of the tobacco growing sector in many LDC's have noted that there are many features of the market for tobacco that make tobacco particularly attractive to growers. First, and most important, is the fact that tobacco, when grown extensively, yields higher net incomes per unit of land than most other cash crops and substantially more than most food crops. In addition, unlike other cash crops, the price of tobacco does not fluctuate substantially. Moreover, in most countries, growers negotiate sales prices for their crops in advance of planting so they are protected from the unexpected price fluctuations that plague other crops and they are paid in cash immediately upon sale of the crop (Economist Intelligence Unit, 1983). The combination of pre-negotiated price and quick sale makes it relatively easy to

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includes many LDC's, the price of tobacco and the relative availability of raw tobacco may not be an important factor in the demand for cigarettes by consumers. Given the relatively low price elasticity of demand observed in many countries, cigarette producers should be able to pass on increases in tobacco prices without jeopardizing sales or profits (5).

It is interesting to note that while the price of tobacco may not be an important factor in determining cigarette sales or smoking levels, it is very important to tobacco producers for the price of tobacco determines the net returns from tobacco production. The price of tobacco may also be important to cigarette manufacturers in competitive markets, in markets where the price elasticity of demand is high, or in markets where taxes are low. Producers that enjoy monopoly status, however, may be insulated from concerns about the price of tobacco.

The monopoly or quasi-monopoly status of many cigarette producers, and the low price elasticity of demand for cigarettes account for much of the willingness of cigarette producers to insulate tobacco growers from the risks of tobacco price fluctuations. This risk shifting makes tobacco production more desirable for the growers and probably helps to dampen any price fluctuations that might otherwise arise in international tobacco markets.

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although no tobacco is grown in Egypt. On the other hand, Zimbabwe is an important producer and exporter of tobacco where domestic consumption is low and apparently not increasing. In general, the relationship between the production of tobacco and its consumption is a complex one molded by forces, political and economic, domestic and international which impinge on supply and demand.

In addition to health concerns, other factors may enter into the consideration of tobacco production policies. First, that tobacco is produced at all is generally accepted as *prima facie* evidence of its profitability and contribution to the producers' income. This is the other side of the previously discussed revealed preference arguments economists invoke in evaluating consumer's decisions. Simply put, profit maximizing producers, typically small farmers, will employ factors to produce crops that maximize their net income. Accordingly, when we observe tobacco production we may assess this activity as reflecting optimization. As in the case of the consumer, this argument requires that the producer have all the information necessary to make an informed decision. If he does not, we cannot be sure that he has not ignored alternative more profitable ways to deploy his productive assets. A related and no less important assumption behind this argument is that he wishes to maximize profits. If other criteria enter his decision framework (eg, generating employment for family members), it will be more

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1980 was approximately 40% less than predicted consumption because of anti-smoking publicity. The estimated price elasticity of demand for cigarettes in the U.S. is about -0.4. This suggests that a 100% price increase in 1980 would have achieved the same level of reduction in cigarette consumption as the anti-smoking campaign. In 1980, cigarettes in the U.S. sold for approximately 63 cents per pack with taxes of 21 cents (or 33% of the retail price). It would appear that taxes of 84 cents per pack (a 300% increase) and a retail price of \$1.26 would have been necessary to achieve the actual 1980 level of cigarette consumption in the absence of the anti-smoking campaign. This level of taxation would appear to greatly exceed the level that could be justified by the level of uncompensated externalities in the U.S. in 1980. Thus, if taxes were to be used to indicate to smokers the true dangers of smoking, welfare considerations would require that a method be established to return the excess revenues to those who continued to smoke.

Great care needs to be taken in generalizing from the U.S. example to the situation in an LDC. For one thing, to the extent that the price elasticity of demand for cigarettes is higher in LDC's than in the U.S., a lower tax would be required to have the same impact on demand and to the extent that a tax effectively discouraged smoking, there would be little need to be concerned about the welfare implications of

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also on a modification of the local health care system and education of health care providers to orient them toward the risk reduction goals of the project. The outcomes differed for men and women. For men, mean reported daily smoking declined in both North Karelia and the reference community during the 10 year period 1972-82, but the decline of 3.4 smoking occasions per day in North Karelia was substantially greater than the decline of 0.7 occasions per day in the reference area. For women, who smoked much less than men in 1972, smoking increased equally in both areas during the 10 year period (Puska, et. al., 1983). There is little published about the cost of the North Karelia project; however, it is described by the investigators as a low cost intervention in a rural, relatively poor area of Finland with few medical resources so its results may be generalizable to certain LDC's. Enthusiasm for the results of the study are tempered by the increase in smoking by women, and the fact that the project was initiated in response to community concerns about the extremely high level of cardio-vascular disease in North Karelia. Because the project evaluation relied on repeated samples of the population rather than panel data, it was not possible to measure changes in behavior directly.

The Stanford and North Karelia projects demonstrate that it is possible to achieve smoking reduction in large groups of people. What is not clear is the value of more intensive

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with all purchasable inputs including seed, pesticides and fertilizers at wholesale prices, and run agricultural extension programs to develop appropriate plants and technology for the area. Farmers are visited regularly by technical advisors provided by the major tobacco companies. The purchasers also play an active role in controlling the chemicals used in growing tobacco so that the crop will conform to U.S. and European standards and be exportable (about 37% of the Brazilian crop is exported). It has been estimated that the value of the extension services rendered farmers by the tobacco companies is equal to 30-35% of the prices paid farmers for the tobacco (Economist Intelligence Unit, 1983).

The Brazilian case is one of several instances where private companies have actively fostered the development of a tobacco growing sector. Many other countries, LDC's and developed, seem to follow a policy of encouraging tobacco production by establishing or supporting high tobacco prices and then institute production controls to avoid excess supplies. Among the developing countries that have recently imposed controls on tobacco production to prevent excess supply are Malawi, India, South Korea, Tunisia, Thailand and the Philippines (United States Department of Agriculture, 1985b). In addition, both the U.S. and Canada control tobacco growing to maintain high prices and the European

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gradually reduced the proportion of imported tobacco in its domestically produced cigarettes to 28% in 1984 from 51% in 1972. Imports are discouraged by restricting the availability of foreign exchange for tobacco imports and by differential taxation which results in substantial (100% or more) retail price differentials between domestically produced cigarettes which contain foreign tobacco and those that do not (U.S. Department of Agriculture, 1985f). Similarly, Tunisia, also a tobacco producer, needs to import tobacco to produce an acceptable cigarette, but imposes a high import duty (171% in 1985) on imported tobacco (U.S. Department of Agriculture, 1985h). As a consequence of such import restrictions, prices received by tobacco growers in these countries are likely to be higher than they would otherwise be, domestic production is stimulated and tobacco farmers' incomes increased. (Interestingly, however, as such measures lead to an increase in cigarette prices and a decrease in average cigarette quality, consumption may be reduced or at least restrained in these countries.)

The U.S. tobacco price support program is an important factor in the development of tobacco growing sectors in many LDC's. The United States is currently the world's second largest tobacco producer, second only to China, and the largest exporter of tobacco. U.S. exports of tobacco accounted for 18% of all unmanufactured tobacco traded internationally in 1981, down substantially from the 35% of

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high. Accordingly, it is difficult to evaluate the cost effectiveness of such policies in developed countries and the situation for LDC's is certainly no better.

As a group these policies are not primarily intended to reduce smoking per se, but to protect certain non-smoking segments of the population from the harmful effects of smoking. Restrictions on sales to minors result from efforts to control the behavior of the young "for their own good". Such restrictions may be justified because of the harmful and addictive nature of tobacco products and WHO has suggested that sales to minors below the ages of 18 or 16 be prohibited (World Health Organization, 1986). Evidence from the U.S., where smoking by children and teenagers is prohibited in many states, suggests that enforcement of such laws is often lax (Lewit, 1986). Little is known about their efficacy in LDC's. Outlawing vending machines, licensing vendors and restricting "broken pack" sales of cigarettes are basically tools for enforcing restrictions on sales to minors. Such restrictions on merchandising practices impose a burden on adult smokers and on tobacco merchants which warrant consideration in evaluating the net benefits of these policies.

Restrictions on smoking in public places result from a concern with the health and other undesirable effects of "passive smoking" on nonsmokers. Bans may extend to

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the market held by the U.S. in 1955-1959. Since 1933, the U.S. Department of Agriculture has operated a tobacco price support program designed to increase the returns to tobacco cultivation. Although the exact form of the program has changed over the years, it basically functions to reduce U.S. production and raise the price of tobacco produced in the U.S. for both domestic and foreign consumption. The program also places restrictions on the size and location of tobacco farms in the U.S. which has made U.S. tobacco production more costly than it might otherwise be.

The higher than free market prices received by U.S. tobacco growers as a result of the U.S. tobacco program benefit the growers and entitlement holders at the expense of consumers both domestically and abroad. These high prices also create opportunities for foreign producers to profitably produce tobacco for both domestic consumption and export (sometimes to the U.S.). U.S. tobacco is generally regarded as being of the highest quality. Accordingly, a substantial fall in its price would make it even more competitive in the world market. Sumner and Alston (1984) have estimated that elimination of the U.S. tobacco support program would very conservatively result in a 25% reduction in the price of U.S. tobacco and a 50% increase in U.S. tobacco production. Very little of this increased production would be absorbed in the U.S. or abroad via increased consumption of cigarettes. Some (27%) would substitute for tobacco currently imported by the

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with appropriate discounting, it is even less likely that a large aggregate excess burden will develop.

The essence of the financial externality argument for tobacco taxes is that tobacco related illnesses may impose an uncompensated burden on non-smokers regardless of their income class. In many LDC's, however, smoking is positively correlated with income which implies that smoking induced illness is more likely to be experienced by those higher up in the income distribution. Hence, increases in smoking induced illnesses may result in a shift in health care resources to provide expensive hospital-based care for relatively well-off smokers. If this shift in resources occurs at the expense of health programs directed at the poor, it may have an undesirable effect on the health of the poor and on the aggregate income distribution. Accordingly, it might be argued that high tobacco taxes are justified in these circumstances as a means of addressing this particular inequity whether the taxes per se discouraged smoking or were used to finance the excess health care consumed by smokers.

Another justification for a tobacco tax is that it can be used to indicate to consumers the "real" costs of tobacco use in the absence of complete information on the dangers of tobacco. It is difficult, however, to know what tax rate might serve as an adequate signal. Warner (1983) presents evidence to suggest that actual U.S. cigarette consumption in

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that legislation restricting sales of tobacco products to minors are warranted and that clean indoor air laws may also be warranted if adequate provisions are made for smokers.

PRODUCTION ORIENTED POLICIES

Tobacco is harmful when chewed or smoked. There are few, however, harmful effects associated with the production of tobacco or of tobacco products, yet concern about the harmful effects of tobacco use have lead some to criticize policies which encourage the production of tobacco. This concern is based on the observation that tobacco could not be consumed if it were not produced. Although true, this tautology by itself is not sufficient to guide tobacco production policies for several reasons.

First, the elimination of the legal cultivation of tobacco in a specific country will not by itself lead to a reduction in the demand of consumers for tobacco products. Restrictions on the supply of tobacco in areas where its use is established will result in an increase in illegal cultivation of tobacco and in trade in smuggled tobacco products. It has been observed that tobacco production and consumption in developing countries may be understated by as much as 20% because of the numerous small scale, on the farm, operations which escape official recording (Economist

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and attitudes that have already occurred is an open question. Critics of restrictions on smoking claim they are coercive and would be expensive to enforce (U.S. News, 1986). In the U.S., few resources have been expended in enforcing these laws (Martin, 1986), but this may merely indicate that enforcement is lax or frequently unnecessary. Evidence from the U.S. also indicates that enforcement of restrictions on sales to or smoking by minors is very lax and accordingly, these restrictions appear ineffective. This is in contrast to the evidence from the U.S. on the impact of minimum drinking ages which do appear to reduce but not eliminate the consumption of alcoholic beverages by minors (Coate and Grossman, 1985).

Legislation protecting the rights of non-smokers and protecting minors are two of many tobacco or health recommendations made by the WHO Executive Board in January 1986. Certainly, enactment of such legislation is relatively inexpensive. Effective enforcement of these restrictions may, however, be relatively expensive in many developing countries where resources for this purpose are scarce. It is sometimes claimed that enactment of laws that are not enforced leads to contempt for the legal process and an increase in criminal behavior, although this observation appears unproven. It is unlikely, however, that such an undesirable turn of events would result from failure to enforce restrictions on smoking. Accordingly, it appears

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U.S. but the bulk (73%) would be exported. In either case, the increased production would be highly competitive with tobacco produced in other nations and as a result, tobacco growing would become much less profitable in other nations. In fact, the increase in U.S. tobacco exported and substituted for imports would, because it would amount to over a third of the current export market, be devastating for those developing countries that currently depend on tobacco export earnings for foreign exchange (7).

The various subsidies provided many tobacco producers make the evaluation of tobacco production policies complex and suggest that each case needs to be examined individually to determine the true "benefits" of tobacco production. The vulnerability of tobacco exports and prices to change in U.S. farm policy is difficult to value explicitly but suggests that tobacco development projects should be evaluated with an eye toward changes in this policy. In addition, it should be recognized that in many countries tobacco production may appear desirable primarily because it allows participation in a subsidized market established by the U.S.D.A because the subsidization of U.S. producers at the expense of consumers has created a similar opportunity for other tobacco producing countries. In addition, domestic programs within LDC's which limit tobacco imports also benefit domestic producers at the expense of consumers. Accordingly, they may not confer a "net" benefit on the country as a whole.

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other crops. Although this kind of spill-over benefit can only be measured on the spot, there are several studies to suggest it may be important. For example, Sofranko, et al. (1976) studied tobacco farmers in Ghana and India. They found that in both countries farmers who grew tobacco were more likely to use improved, modern technology in producing their non-tobacco crops than similar farmers who did not grow tobacco. Femi-Pearse (1983a) reported that the Nigerian Tobacco Company established a program in 1978 to encourage the cultivation of a high yielding cassava in rotation with tobacco. The new cassava matures in less time than the plant previously grown and produces almost five times the crop yield per acre planted when compared to the traditional plant. In addition, it has been hypothesized that the fertilizers typically used to grow tobacco may enhance the production of other crops grown in rotation on the same plot of land with tobacco. This effect has been difficult to measure empirically although there are many technical reasons for believing that this benefit exists (Economist Intelligence Unit, 1983).

Tobacco requires a "sterile" field for its successful propagation. Accordingly, large quantities of pesticides are used on tobacco crops. Most of these pesticides are toxic and some can contaminate village water supplies. Pesticides, such as aldrin, which are restricted in many developed countries are used in some developing countries to grow

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tobacco is frequently not an important factor in the price of tobacco products. This particularly true in the case of manufactured cigarettes, the mostly widely consumed tobacco product and the product which typifies the modern tobacco sector which is developing in many LDC's. Although there is little published information regarding the components of the cost of tobacco products in most LDC's, the data from Brazil, the U.S., Denmark, and Italy presented in Table 7 are illustrative of the situation in many countries.

Of note in the table, is the relatively insignificant role the cost of tobacco plays in the price of cigarettes in these countries. Price is largely a function of the very high levels of taxation on cigarettes. Data from the U.S. are most detailed and suggest that even with excise taxes on cigarettes at 41%, the gross returns to tobacco producers in 1972 only accounted for 6% of the retail price of cigarettes. Data from the other three countries, one (Denmark) a nonproducing tobacco importer the other two important producers suggest that at higher levels of taxation the component of cigarette cost accounted for by tobacco would be even less. For example, were the tax on cigarettes in the U.S. to increase to 75% of the retail price and the other cost components remain the same, tobacco costs would account for only 2.5% of the cost of cigarettes in the U.S. This suggests that in most countries where taxes on cigarettes and other tobacco products are substantial, and this

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tobacco. They pose a hazard to those involved in tobacco production, to the environment and to those who consume the tobacco produced.

The contamination of communal water supplies by these pesticides is an externality which should be figured into the evaluation of the benefits of tobacco production and the danger posed by exposure to these chemicals by production workers is an additional cost of production. As is true with so many of the issues surrounding tobacco consumption and production, the extent of the knowledge of those at risk because of exposure to these chemicals is of critical consideration in evaluating the hazard. Individuals should be informed of the risks involved and offered reasonable alternatives to the use of these chemicals. Contamination of local water supplies should be addressed locally by tax or regulatory action. Ultimately, the question of whether these hazards justify curtailing tobacco production depends not on the presence of the hazards per se but on the costs involved in modifying them and the willingness of individuals to accept the risks or bear the costs of risk-reducing activities.

Tobacco cultivation has been criticized on the grounds that it competes for resources with food production in areas where food production is inadequate for the needs of the population. Concern about the problem of malnutrition in

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incentives farmers face in making production decisions. For example, governments in many developing countries attempt to restrain food prices in order to favor urban consumers. This may create strong disincentives for growers of food crops. Moreover, as has been noted above, tobacco cultivation is subject to subsidies in many countries. As a result of these two policies, farmers may shift resources to tobacco cultivation. Although the extent of substitution of tobacco for food production, if any, has not been measured empirically, it must be of concern given the significant subsidies provided tobacco cultivation in many countries.

Increasing concern has been expressed for the problem of deforestation in many developing countries (Steel, 1985) and tobacco has been indicted as a factor in this growing environmental problem (World Bank, 1984). Unregulated, widespread cutting of forests for fuelwood and other purposes, can lead to soil depletion and erosion, the clogging of streams and rivers, and other environmental repercussions which may eventually result in desertification. In addition, in many countries wood is an important source of energy for cooking and heating and the depletion of the forests may increase the cost of fuel for these basic activities.

The role of tobacco production in this environmental problem must be kept in its proper perspective. First, about

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Common Market pays subsidies to its tobacco farmers which exceed the value of the tobacco actually produced.

The existence of subsidies in the market for tobacco may introduce distortions into that market. In particular, subsidies will make tobacco growing more profitable to the farmer than it would be if prices were determined by market forces. This will encourage a shift of resources from other crops to tobacco. In competitive markets, this resource shift would lead to an expansion in supply and an equilibrating fall in price. Where supply is controlled and unable to expand, price will not fall and as a result farmers who have access to the market will earn excess profits called "economic rents". These excess profits will encourage the producers to organize politically to protect their rents against falling prices, increases in supply and government campaigns designed to discourage smoking. Such "rent seeking" behavior has been observed in markets for many products around the world (Johnson, 1984) and should be considered to be a likely result of most regulatory and subsidy policies.

In order to conserve on foreign exchange, many LDC's attempt to discourage the importation of foreign tobacco (either in its raw form or as cigarettes). This is particularly apparent in LDC's with domestic tobacco industries. Thus, Thailand a major tobacco producer, has

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market and capture some of the transfers between consumers and producers that occur in such markets. Such activities may have a beneficial impact on a country's net income provided there are not serious externalities associated with tobacco production.

The analysis associated with tobacco produced for domestic consumption is more problematic. In most cases the subsidies enjoyed by domestic producers are financed at the expense of domestic consumers so there is no gain to the country as a whole. Moreover, domestically financed subsidies are more likely to encourage "rent seeking" behavior on the part of domestic producers. Such behavior may not only lead to increased efforts to protect the domestic market from foreign competition but may result in attempts to encourage tobacco consumption and restrain policies designed to reduce demand for health reasons.

Tobacco sectors are also being developed to substitute for imported tobacco. The development of an import substitution tobacco sector in an LDC may appear attractive as in the short run it will save on foreign exchange, create employment and shift the subsidy paid by consumers from foreign suppliers to domestic producers. The development of a domestic tobacco sector will almost certainly result in an increase in tobacco use because of a decline in the "real" price of cigarettes. In addition, it will make it more

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60% of tobacco is cured by the sun or air without using an artificial energy source. Second, of the remaining 40% of tobacco, much is cured using fuels other than wood (coal in South Korea and parts of India and Zimbabwe and oil in Indonesia, Central America, and the Caribbean). Countries where fuelwood is an important input to tobacco production include Bangladesh, Pakistan, Brazil, Malaysia, Malawi, Tanzania, Kenya and Sierra Leone (Economist Intelligence Unit, 1983). Even in these countries the amount of wood used to process tobacco is highly variable depending on the type of wood used and the efficiency of the curing process.

The evidence suggests that deforestation may occur because of a failure to properly price fuelwood. If fuelwood is priced too low, it will be wasted not only in the production of tobacco but in other uses as well. Fuelwood will be priced too low if as in many areas, its price reflects only the cost of gathering the wood and not the cost of maintaining the forests. Forests need to be maintained to assure future supplies of wood and to prevent the environmental impact of deforestation. Deforestation has a large external component as its environmental effects will be felt not only by tobacco producers and other users of wood but also by all those who live in the general area. In addition, there is a time or intergenerational component to resource depletion that has to be considered even in the absence of the environmental effects of deforestation.

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Externalities in Production

Just as various subsidies to the production of tobacco, may cause policy makers and farmers to misvalue the crop, the various externalities associated with the production of tobacco warrant consideration in formulating tobacco related policies. Externalities associated with the production of tobacco reflect costs (negative) or benefits (positive) which are not directly borne by the tobacco producer and therefore are not fully reflected in prices and production decisions. Several important externalities which have been identified with tobacco cultivation in LDC's are discussed below. They are, however, not important in most countries, and thus individual countries require individual consideration.

A positive externality that has been associated with tobacco production is an improvement in farming practices that not only increases tobacco yields but also increases the production of other crops. As noted above, tobacco growing requires a high degree of quality control to produce a tradeable crop and in many LDC's the major tobacco purchasers play an important role in providing the technical support and inputs necessary for a quality crop. In many countries, tobacco farmers grow other crops as well and many of the modern tobacco farming procedures may be applied to their

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of domestic consumers.

Added uncertainty in international tobacco markets is provided by the emergence of China as the world's largest producer of tobacco. Chinese tobacco production has grown extremely rapidly in recent years in order to satisfy growing domestic consumption. If the Chinese turn their attention to the international market because of slackening domestic demand, domestic health concerns or a desire to earn foreign exchange, they could have a significant impact on supply, exerting downward pressure on tobacco prices and reducing returns for other producers.

Speculation about future U.S. and China tobacco policy aside, there appears to be at present a significant potential excess supply of tobacco internationally. Evidence for this observation is found in the many policies instituted to constrain the supply of tobacco and support current prices. Demand for this tobacco is only likely to come from increased demand for tobacco products in LDC's. Such increased demand will depend on growth in income in many LDC's and on government policies conducive to tobacco consumption.

RECOMMENDATIONS

In this paper, I have reviewed in some detail factors affecting the demand for and supply of tobacco products in

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developing countries and the potential impact of a variety of policies on both sides of the market for tobacco products. The framework of neoclassical welfare economics was used to evaluate the possible effects of various policies although it must be stressed that specific policies have to be evaluated for individual countries on a case by case basis. At this point, it may be useful to review the issues considered and weigh the pros and cons of the various policy options discussed.

For each policy considered, it is appropriate to evaluate both its benefits and costs by asking what are all the consequences of such policies likely to be? As concern about tobacco stems from its deleterious effects on health, it would be most appropriate to ask about the tangible health benefits that would result from the various policies. Realistically, however, it must be noted that the actual identifiable health benefits that might accrue from reductions in smoking in LDC's are difficult to estimate and delayed in occurrence. It may be more appropriate to evaluate policies in terms of their effects on smoking or tobacco use per se and not their ultimate health consequences. Similarly, it is difficult to measure the direct and indirect costs of various policies and to identify by whom these costs are borne. Accordingly, analysis of various policies may best be done in a kind of partial equilibrium framework in which the consequences of the

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various policies are explored without explicitly adding up their various costs and benefits. The specific recommendation that follow are derived from the evaluation of alternative policies along many dimensions including: their likely impact on tobacco use; their use of scarce resources; their distributional impact; their usefulness to correct market failure; their respect for the prerogatives of the individual; and their protection of the interests of innocent bystanders.

1. Labelling Requirements: It is strongly recommended that all tobacco products be labelled with health warnings. The warnings should be informative, clearly visible and easily understood by all members of the population at risk. Health warnings should also be prominently displayed in all tobacco advertising. Warnings are an inexpensive way to inform consumers of the added risks they face as a result of tobacco use. Although there is little empirical evidence of the impact of warning labels on tobacco use, they can do no harm and may potentially be helpful in correcting the market failure that results when consumers are uninformed about the consequences of tobacco use.

2. Advertising Restrictions: There is little empirical evidence to support the claim that tobacco advertising is an important factor in the aggregate demand for tobacco products in countries with established markets for tobacco.

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There is no information, however, on the impact of advertising in fledging tobacco markets. Most tobacco advertising tends to obfuscate the tobacco and health relationship and may accordingly introduce inefficiencies in the market for tobacco products. Accordingly, it appears reasonable to ban or severely restrict tobacco advertising in less developed countries. It must be recognized, however, that such a policy may have significant costs. These include a reduction in the income of institutions that carry tobacco advertising (including a reduction in the subsidy received by the media and certain sporting and cultural events), and a modification of the competitive environment in the market for tobacco products which may affect producers differently (this will be of little concern where the market is controlled by a government monopoly).

3. Health Education: Like the previous two recommendations public education regarding the dangers of tobacco use is intended to redress the inefficiencies that arise when consumers are not aware of the consequences of their actions. Unlike the other two policies, health education requires the commitment of resources by government or by private public service organizations. Accordingly, since resource limitations may be severe and competing wants substantial in many LDC's, health education programs for individual countries will have to be evaluated on a case by case basis.

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Subsidy of Tobacco Production

There are a variety of mechanisms which subsidize the production of tobacco. In some countries, subsidies arise from a deliberate attempt to develop a domestic tobacco industry. In other situations, they arise because of attempts to control the importation of cigarettes or tobacco from abroad in order to conserve foreign exchange. In addition, most tobacco producers benefit to some extent from U.S. policies which restrict the supply and inflate the price of tobacco.

In many countries, the growing and curing of tobacco is controlled and directed by the major tobacco purchasers--either large private companies as in Brazil or government monopolies as in Tunisia or Thailand. In many situations, these organizations set the price of tobacco prior to planting and provide seeds or seedlings to tobacco farmers who are thus guaranteed a minimum income for their crop at harvest time. The purpose of these production controls appears to be to encourage the production of a limited target quantity of high quality, marketable tobacco (6).

The situation in Southern Brazil is exemplary of an industry sponsored program of support for the tobacco growers. The cigarette manufacturers provide the growers

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performed from a societal as opposed to an individual perspective. In many situations, those perspectives may differ and as has been discussed for tobacco, there is reason to believe that the price received by tobacco growers may in some sense overstate the value of the crop to society as a whole (8).

Policy Options

Chief among the various policies that would discourage the production of tobacco would be a decline in its price. Such a price decline would occur if there were a significant reduction in the demand for tobacco or if there were reductions in the subsidies and tariffs which support the production of tobacco in many countries. From a global perspective, it is important to remember that at current prices a significant excess supply of tobacco would be produced if production controls were to be relaxed. Accordingly, substantial price reductions may be necessary to actually reduce production.

From the perspective of an individual country, it may be useful to distinguish between tobacco produced for export and that produced for home consumption. Tobacco produced for export allows the country to participate in a subsidized

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Switzerland: Health care and all external cost data estimated by Leu and Schaub (1984). Inflated to 1983 Swiss Francs by rate of growth in Swiss health care expenditures and GNP deflator respectively for the period 1976-1983. Converted to U.S. dollars by GDP purchase parity ratios. Ratios from OECD (1985). Aggregate costs divided by estimated consumption (USDA, 1985c).

U.S.: Data on direct health care costs of smoking is the mean of three figures reported in Rice, et. al (1986). Total direct costs are multiplied by the share of U.S. health care costs financed via third parties (75%) and the percent of the population that are non-smokers (70%). Resulting number is divided by aggregate cigarette sales (U.S.D.A., 1985c).

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disease. Lastly, with a little ingenuity it may be possible to use the ratios observed as a basis for estimating the level of uncompensated externalities in these countries and as a guide for rationalizing tobacco tax policy.

c. Traditional Vs. Modern Tobacco Sectors: In many LDC's, tobacco has been traditionally cultivated and consumed in forms other than cigarettes. There is reason to believe that these forms of consumption may not be discouraged (and may be encouraged) by taxes and other policies directed at cigarette consumption. Accordingly, examination of the relationship between "traditional" and "modern" forms of tobacco consumption may be of value in selected LDC's.

d. Supply-Demand Relationships: Despite evidence of an excess supply of tobacco, international tobacco companies have encouraged and subsidized the development of tobacco producing sectors in a number of LDC's. It appears that these activities may be designed to develop a constituency within these countries for expansion of the domestic tobacco market. Although it may be difficult to establish a causal link between the expansion of supply and expanding demand, it may be worth the effort. Evidence of this relationship may be an important factor in shaping government attitudes regarding the activities of the large multinational tobacco companies.

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include reforestation or forest management projects, support for the development of more energy efficient tobacco curing techniques, and support for the growing of profitable alternative crops which will have a more beneficial impact on the environment. It should be recognized, however, that the problem of deforestation whether caused by tobacco curing or from other activities results from the under-pricing of forest products in many LDC's. In particular, if wood is valued only at the cost of gathering, it will be used inefficiently and economic activities such as the curing of tobacco which use wood intensively will be encouraged. Accordingly, it may be beneficial to require that users of wood be responsible for a certain amount of reforestation activity. This would not only help replenish the forests, but it would discourage activities which intensely use and/or waste wood. In the absence of policies designed to charge users of wood an appropriate price for wood, subsidized reforestation programs may only encourage its inefficient use.

7. **Research Priorities:** Given that very little is known about the effects of various tobacco control policies in LDC's almost any well executed study may yield valuable information. In such an environment and given scarce resources and a desire to develop policies expeditiously, establishing research priorities is important. Accordingly, some recommendations are:

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many third world countries notwithstanding, it should be observed that tobacco is not generally an important contributor to this problem for several reasons. First, on the production side, tobacco requires very little arable land and in some countries, tobacco is grown on land unsuitable for other crops. In addition, land used to grow tobacco is frequently used to grow other crops during part of the year as it is typically planted in tobacco for less than six months. As compared with other crops grown in LDC's, tobacco is very labor intensive and creates needed employment in many areas. Tobacco's demand for labor is highly seasonal and in some areas it may compete with the labor needs of other crops but more often because of differences in crop growing calendars it complements the production of other crops (Economist Intelligence Unit, 1983).

The nature of the potential technical complementarity or substitutability of tobacco for food crops is not be the only factor which determines the impact of tobacco growing on food supplies. Of equal importance are the incentives farmers face regarding alternative crops. There is basically no economic reason for a nation or a geographic region to be self-sufficient in food production. In fact, the theory of comparative advantage would suggest that it may be more advantageous to specialize in the production of high profit cash crops and use the profits to purchase food. Distortions may arise however because subsidy programs alter the

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Because the cutting of timber without replacement in the present reduces the resources that will be available in the future, it may lead to increases in the cost of production over time and a reduction in future income. Failure to adequately plan for resource needs over time may mean that total income aggregated over a long time frame may be suboptimal. In the case of the wasteful use of wood for tobacco curing, it means that current profits from tobacco cultivation are obtained in part at the expense of future profits and that current profits may overstate the true returns from tobacco cultivation.

If fuelwood is wasted in the production of tobacco because its price is too low, a logical policy would be to seek to raise the price of fuelwood to the farmer. Such an increase in price may cause some marginal producers to cease production of tobacco while others may turn to alternative fuel sources or more fuel efficient curing barns. All of these changes would occur eventually as depletion of the forests caused the price of fuelwood to increase. It may be difficult to effectively increase the price of fuelwood so as to encourage conservation measures, but it may be possible to tie conservation measures to tobacco production in those countries where tobacco production is controlled by a central authority. This appears to be the policy in Brazil where tobacco farmers are required to plant 500 Eucalyptus trees annually in order to supply their own fuel needs for

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Table 2

Trends in Cigarette Consumption in Selected Countries

AREA	% Change Cigs	% Change Pop	% Change Cig/Pop	Cigs/Pop
<u>1975-79 to 1984</u>				
<u>North America</u>				
CAN. DA	-.003	.011	-.014	2797
USA	-.002	.010	-.012	2678
Region Tot	-.002	.010	-.012	
<u>Europe-Market Economies</u>				
GER(FRG)	-.001	-.001	0	1867
U.K.	-.047	.001	-.048	1818
FINLAND	.028	.005	.023	1148
NORWAY	-.032	.004	-.036	556
SWEDEN	-.002	.001	-.003	1543
Balance of Region	.005	.004	.001	
Region tot	-.006	.002	-.008	
<u>Europe-Non-Market Economies</u>				
Bulgaria	-.002	.030	-.032	2472
Poland	.006	.009	-.003	2517
USSR	.010	.009	.001	1715
Balance of Region	.011	.005	.006	
Region tot	.010	.007	.003	
<u>Oceania</u>				
AUSTRALIA	.006	.014	-.008	2340
N.ZEALAND	-.004	.012	-.008	2305
Balance of Region	.013	.020	-.007	
Region Tot	.006	.015	-.009	

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e. Other Areas for Study: It is tempting to suggest other areas of research, but consideration of the results of 20 years of tobacco policy research in developed countries suggests that the payoff to such an endeavor may be low. At the very least, however, efforts should be made to collect more data on the patterns of tobacco use in LDC's and to include an objective evaluation component as an integral part of new tobacco control initiatives.

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Market responses to attempts to substitute other crops for tobacco may complicate this policy. Increased production of alternative crops may lead to a fall in their price not only making them less attractive substitutes for tobacco but also harming traditional producers. Similarly, declines in tobacco production by established producers may merely produce opportunities for competitors to initiate or increase production. Given the potential excess supply situation in many countries, programs which encourage the production of alternative crops by tobacco producers will probably require strict controls on tobacco production to be successful at reducing tobacco production.

The main attraction of policies designed to subsidize the production of alternative crops as substitutes for tobacco may be that they might provide a politically acceptable way to "buy-off" tobacco growers. By offering growers an acceptable, profitable alternative to tobacco growing, it may be easier to implement policies designed to reduce the demand for tobacco.

SHOULD TOBACCO PRODUCTION BE ENCOURAGED ?

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The question of whether to encourage the development of a tobacco sector can be addressed from several perspectives.

Given current world market conditions, many tobacco development projects will be profitable for development agencies and individual tobacco growers. Tobacco projects may not only be safe investments, but more often than not, they will contribute to an increase in the national income of developing countries. Moreover, the adverse effects of tobacco consumption will not be experienced in a producing country if the tobacco is exported. Even if the tobacco is consumed domestically, the adverse health effects of its consumption may not be realized for years, and if the domestically produced tobacco were to substitute for imported tobacco, national income would frequently be enhanced without a net deterioration in health levels. Ultimately, therefore, the issue of whether to support the development of a tobacco industry has to be weighed against the political reality of the power an entrenched tobacco sector is likely to be able to wield to protect its interests.

The evidence of the behavior of the tobacco interests in much of the developed world suggests that they will leave no stone unturned in their efforts to obfuscate the relationship between tobacco use and disease and to preserve and expand their markets. The situation may become more complex when governments become dependent on taxes on tobacco products for a substantial portion of their revenue and on tobacco exports for foreign exchange earnings. Thus, the development or expansion of a tobacco sector may make it that much more

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difficult for consumers to obtain the information they need to make informed decisions about tobacco use, and their confusion may be heightened when government and quasi-government bodies encourage tobacco production.

Health considerations aside, from both a long term and a global perspective the case for promoting tobacco production on economic grounds is shaky. Although tobacco is today typically a very profitable crop, much of its advantage stems from the various subsidies, tariffs and supply restrictions that support its high price and provide economic rents for its producers. The U.S. tobacco price support program is an important determinant of the price of tobacco in international markets. By keeping the price of U.S. tobacco artificially high and the supply low, it has provided opportunities for other countries to develop tobacco sectors. The U.S. program is under attack, however, both by anti-smoking forces in the U.S. and by tobacco growers, who are finding that the market for their crop is shrinking as demand in the U.S. declines and competition from lower priced foreign producers increases. If the U.S. program were abolished or radically altered, foreign tobacco producers might have to contend with a massive increase in the supply of U.S. tobacco and a fall in tobacco prices that would make tobacco production much less profitable.

Other changes in the world tobacco market may also make

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Table 4

Market Shares of U.S.
Cigarette Manufacturers, 1947-1982

Year	R	P	B	A	Lo	Li
1947	29.7	7.0	3.2	34.5	4.3	21.3
1952	27.3	9.6	6.0	33.0	6.3	18.0
1957	28.7	9.3	10.7	29.1	7.7	14.5
1962	35.0	9.4	9.3	25.6	11.0	9.8
1967	32.5	12.7	14.3	22.2	10.2	8.1
1972	31.4	20.0	17.3	16.8	8.9	5.6
1977	33.1	26.7	15.8	12.3	8.7	3.4
1982	33.6	32.9	13.4	8.8	8.6	2.9

* R = Reynolds, P = Philip Morris, B = Brown and Williamson, A = American Brands, Lo = Lorillard, Li = Liggett. Numbers may not sum to 100.0, due to rounding. Source: Porter (1986).

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Table 7

**Cost of Tobacco as a Factor in the
Retail Price of Cigarettes**

Factors	COUNTRIES			
	United States (1972)	Denmark (1984)	Brazil (1984)	Italy (1984)
Percent of Retail Price				
Returns to Growers	6			
Manufacturing	14			
Capital Expenses	16			
Distribution	23			
Taxes	41	89	76	72
Wholesale Price		8	15	20
Retail Margins		4	9	8

Sources: U.S. Department of Agriculture(1984).
Miller(1984).

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tobacco a much less attractive crop. At present, world wide demand for tobacco is virtually stagnant except for substantial growth in China which has been able to supply its growing demand for tobacco itself. Demand for tobacco in the major developed countries has been falling because of concerns about the health effects of tobacco consumption. The evidence suggests that the decline will continue if not accelerate. Therefore, even without a major shift in U.S. tobacco policy, less developed tobacco exporting countries may find it increasingly difficult to market their crop to developed countries. This may put pressure on prices and cause less developed countries to look for outlets for their tobacco crops domestically or in other LDC's. The economic implications of such a shift could be significant. Tobacco support programs operate to benefit producers at the expense of consumers. When the producers are concentrated in the less developed countries (as they are now except for the U.S.) and their customers are concentrated in the developed world (primarily Europe and Japan), the income transfer from the developed world benefits its LDC recipients. If LDC's begin trading tobacco among themselves, the resulting inter-LDC transfer would still benefit the recipient countries but at the expense of other LDC's. From the perspective of the less developed countries as a group there would be no net gain. This inter-country transfer would be similar to the intra-country transfers that result when high tariffs and import restrictions benefit domestic producers at the expense

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Table 5

Government Tobacco Monopoly, Tax as Percent of Price and Smoking Restrictions in Selected Countries

Area	Government Tobacco Monopoly	Tax as % Price	Smoking Restrictions	% Change Cigs/Pop Cigs/Pop
North America				
CANADA	NO	75%	YES	-.014 2797
USA	NO	35%*	NO	-.012 2678
Europe-Market Economies				
GER(FRG)	NO	45%	YES	0 1867
U.K.	NO	75%	YES	-.048 1818
FINLAND	NO	68%	YES	.023 1148
NORWAY	NO	63%	YES	-.036 556
SWEDEN	NO	72%	NO	-.003 1543
Europe-Non-Market Economies				
Bulgaria	YES		NO	-.032 2472
Poland	YES		YES	-.003 2517
USSR	YES		NO	.001 1715
Oceania				
AUSTRALIA	NO		YES	-.008 2340
N.ZEALAND	NO		YES	-.008 2305
Asia				
CHINA	YES		NO	.078 900
TAIWAN	YES		NO	.036 1531
JAPAN	YES		YES	-.002 2636
S. KOREA	YES		NO	.028 1747
INDIA	NO		YES	.010 146
Africa				
EYGPT	YES		NO	.056 872
MALAWI	NO	25%	NO	.135 181
NIGERIA	NO		NO	-.054 98
ZIMBABWE	NO	55%	NO	-.060 319
Americas(Balance)				
BRAZIL	NO	76%	NO	-.021 1051
COLUMBIA			YES	.059 873
MEXICO	NO	57%	NO	-.040
VENEZUELA	NO	45%	YES	-.030 1089

(Sources: U.S. Dept. of Agri., 1984. *Includes state taxes.)

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Table 3

Health Warnings, Advertising Restrictions and Cigarette Consumption in Selected Countries

AREA	Pack Warning	Ad Ban	X Change Cigs/Pop	Cigs/Pop
North America				
CANADA	YES	PARTIAL	-.014	2797
USA	YES	PARTIAL	-.012	2678
Europe-Market Economies				
GER(FRG)	YES	PARTIAL	0	1867
U.K.	YES	PARTIAL	-.048	1818
FINLAND	YES	TOTAL	.023	1148
NORWAY	YES	TOTAL	-.036	556
SWEDEN	YES	PARTIAL	-.003	1543
Europe-Non-Market Economies				
Bulgaria	NO	TOTAL	-.032	2472
Poland	NO	TOTAL	-.003	2517
USSR	YES	TOTAL	.001	1715
Oceania				
AUSTRALIA	YES	PARTIAL	-.008	2340
N.ZEALAND	YES	PARTIAL	-.008	2305
Asia				
CHINA	NO	TOTAL	.078	900
TAIWAN	NO	PARTIAL	.036	1531
JAPAN	YES	NONE	-.002	2636
S. KOREA	YES	NONE	.028	1747
INDIA	YES	NONE	.010	146
Africa				
EYGPT	YES	PARTIAL	.056	872
MALAWI	NO	NONE	.135	181
NIGERIA	NO	NONE	-.054	98
ZIMBABWE	NO	PARTIAL	-.060	319
Americas(Balance)				
BRAZIL	NO	PARTIAL	-.021	1051
COLUMBIA	YES	PARTIAL	.059	873
MEXICO	YES	NONE	-.040	
VENEZUELA	YES	PARTIAL	-.030	1089

Source: U.S. Dept. of Agriculture, 1984 and Table 2.

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NOTES

1. Extending the disease analogy, it is interesting to compare the effects of "vaccination" and "quarantine". Vaccination prevents new cases of an infectious disease without benefitting or injuring those already afflicted. Quarantine also prevents the spread of a disease but at substantial cost to those already afflicted.
2. A "public good" is a good which will not be provided by the market in sufficient quantities for two reasons. It is characterized by non-rival consumption (many people may consume it without impairing each other's welfare) and nonexclusion (it is difficult to exclude non-buyers from the benefits of the good). Clearly, information about the health consequences of tobacco fit both these criteria.
3. In China, all tobacco products were produced and sold by the government until recently without advertising. The government has recently signed an agreement to allow R. J. Reynolds Tobacco Company to manufacture and market the company's cigarette brands in China. Preliminary reports indicate that Reynolds intends to advertise its cigarettes in China.
4. It might be easier to apply restrictions on the supply of tobacco in countries where tobacco use is rare, as has been suggested by Chandler (1986). However, the experience of the U.S. and other developed countries with the introduction and rapid dissemination of controlled psychogenic substances from abroad suggests that a favorable assessment of restrictive policies should await assessment of the actual results they produce.
5. Although tobacco is typically a minor factor in the retail price of cigarettes, lack of foreign exchange to purchase tobacco abroad may be factor in limiting the availability of cigarettes in non-tobacco producing countries. For example, the Egyptian cigarette industry is dependent on U.S. subsidies to finance its tobacco purchases. Foreign exchange shortages may be so extreme that countries may ban cigarette imports or restrict the importation of paper and packaging material used to manufacture cigarettes. These restrictions seem to arise when nominal exchange rates overvalue local currencies. Under these circumstances, it may appear profitable to produce tobacco domestically and governments may encourage such production to alleviate demand pressures.
6. Although the tobacco quality may be a factor best appreciated by experts, even casual reading of the literature suggests that it is of prime concern to most purchasing agents.

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curing (Economist Intelligence Unit, 1983). As the planting and maintaining of fuelwood plots is expensive, such a policy should also encourage the development and adoption of more fuel efficient curing barns. It may also encourage some farmers to shift to alternative fuels and others to alternative crops.

A similar policy has been announced in Kenya where farmers supplying B.A.T. must plant 1,000 Eucalyptus seedlings annually (Economist Intelligence Unit, 1983). Eucalyptus trees are planted because they grow very quickly and can produce fuelwood in 5-6 years. They require large amounts of water, however, and are difficult to grow in areas where water is scarce. Moreover, there are reports that suggest that in many instances reforestation programs announced by tobacco producers are not actually being implemented (World Bank, 1984). These factors suggest that more attention needs to be paid to developing species of trees appropriate to reforestation in different environments and that plans for reforestation may need considerable lead time and increased enforcement to be successful.

The presence and relative importance of the subsidies and externalities associated with tobacco production are complex and variable. They are ultimately factors that need to be considered in the evaluation of individual tobacco production projects especially where project planning is

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protective behavior by its participants which may make it very difficult for governments to mount effective programs to control tobacco use. Moreover, expansion of the tobacco sector in many LDC's coupled with a modification of tobacco policies by the U.S., China or Western Europe could lead to a decline in the profitability of tobacco production, an increase in attempts to promote tobacco consumption in LDC's and a shift in the pattern of tobacco subsidies to one less favorable to LDC's as a group. Accordingly, from a global perspective, there is little to justify external support for the development or expansion of tobacco production in LDC's. Multinational tobacco companies have been very willing to support the development of tobacco production and manufacturing in a number of developing countries. Given the potential excess supply of tobacco on world markets, these activities seem to be intended primarily to encourage the expansion of the domestic market for cigarettes in the recipient countries.

6. Alleviation of the Environmental Impact of Tobacco Production: In certain countries, tobacco production has been tied to increasing rates of deforestation and associated environmental problems. These conditions may be associated with significant externalities as their impact will be felt not only by tobacco producers but also by their neighbors and by future generations. Projects which address these environmental problems should be encouraged. Such projects may

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impact of tobacco use in LDC's in part because attention has not focused on the effects of tobacco on illnesses with high prevalence in LDC's. For example, liver, stomach and bladder cancer are more prevalent than lung cancer certain LDC's. It is conceivable that the incremental effect of smoking on these cancers could have a greater impact on health in these countries than the increase in lung cancer what might accompany an increase in smoking (9). Accordingly, research into the impact of smoking on these and other diseases which might be potentiated by tobacco use in LDC's might prove valuable.

Alternatively, it might be valuable to attempt to measure directly the impact of tobacco use on health care utilization in LDC's. This could be accomplished by measuring differences in health care utilization according to smoking status in a sample of patients enrolled in established public or private health plans. Although such studies might seriously underestimate the aggregate impact of tobacco use in an LDC, the differential use ratios developed could be useful data in developing cost of smoking estimates for these countries. A strength of these estimates would be that they would not require the identification of specific tobacco-disease relationships that might require large data sets for confirmation. Moreover, they could directly address the issue of the health care costs of tobacco use in different LDC's with different health care systems and different patterns of

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4. Tobacco Taxes: There is an important role for taxes on tobacco in LDC's, but great uncertainty about the appropriate level of taxation. Taxes rates equivalent to U.S.\$.40 per pack of 20 cigarettes or 40% of the retail price of cigarettes may be a reasonable upper bound to the level of taxes that could be justified by welfare economics. Subsidies to tobacco consumption appear unwarranted and taxes below U.S.\$.10 - .15 may be too low. High taxes on tobacco products can discourage their consumption, but high taxes have several drawbacks: they encourage illegal tax evasive activities; they are paternalistic; and they may penalize established smokers inequitably. The argument that very high tobacco taxes are necessary to redress uncompensated financial externalities may be invalid in most LDC's because of the absence of a societal infrastructure to support the sick, the low level of expenditure on medical care, and competing sources of illness which may effectively reduce the net impact of tobacco use on health and longevity.

5. Support for Tobacco Production: Tobacco is typically a very profitable crop because of many implicit and explicit subsidies both within the countries where it is produced and internationally. Accordingly, additional aid for tobacco production may be not only unjustifiable but unnecessary. In the short run, tobacco production may prove profitable and raise national incomes in many LDC's. A large, growing and profitable tobacco sector will, however, induce self-

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a. Cross-National Study of Tobacco Use Trends in Various Countries: There is substantial variability among LDC's in tobacco use and in tobacco policies. A well organized cooperative (or centrally coordinated) study of the relationships between tobacco use and tobacco policies might be a relatively inexpensive way to spot effective policies. To be worthwhile, however, the study would have to go beyond the anecdotal accounts of experience in certain countries which currently constitute the limited literature in this area. An attempt should be made to control for changes in several variables at once including trends in income or education which might seriously effect tobacco use, but which are frequently ignored in studies which focus on specific interventions. A comprehensive cross-national study might require data collected in individual countries, but it could be initiated with data collected by the USDA, World Bank, FAO and other international organizations.

b. Evaluation of the Cost of Tobacco Use in LDC's: Evidence of the deleterious effect of tobacco use is based largely on experience in developed countries. As I have argued above, this information may be of limited value in many LDC's. Information is beginning to accumulate suggesting that tobacco use in some LDC's has lead to increases in the incidence of the tobacco related illnesses seen in developed countries. Little is known, however, about the aggregate

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**An Appraisal of the Advertising Analysis and
Conclusions in the "Health or Tobacco" report from
the Toxic Substances Board of New Zealand**

A report prepared by
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D. Martin, M H Gamma Consulting Ltd.
in conjunction with **M.J. Waterson, U.K. Advertising Association**

for the

TOBACCO INSTITUTE OF NEW ZEALAND

July 1989

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AREA	% Change Cigs	% Change Pop	% Change Cig/Pop	Cigs/Pop
Oceania				
AUSTRALIA	.006	.014	-.008	2340
FIJI	.012	.020	-.008	975
N.ZEALAND	-.004	.012	-.008	2305
PAUPA-NG	.012	.019	-.007	
SOLOMON ISL	.016	.035	-.019	
REG TOT	.006	.015	-.009	
WORLD	.025	.017	.008	
AFRICA W/O EGY/S.A.	.031	.030	.001	
ASIA W/O CHINA/JAPAN	.031	.023	.008	
WORLD W/O CHINA	.010	.019	-.009	

- % CHANGE CIGS=ANNUAL COMPOUND RATE OF GROWTH OF CIGARETTE CONSUMPTION, 1975/79 to 1984 (USDA, 1985c) (Calculations by author)
- % CHANGE POP=AVERAGE ANNUAL PERCENT CHANGE IN POPULATION 1977 to 1984 (U.S. Bureau of the Census, 1985)
- % CHANGE CIGS/POP=RATE OF CHANGE IN PER CAPITA CIGARETTE CONSUMPTION (Calculations by author)
- CIGS/POP=PER CAPITA CIGARETTE CONSUMPTION 1982 (Collinsshaw and Mulligan, 1984)

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difficult to mount successful anti-tobacco campaigns as the effects of such campaigns will be felt by domestic producers rather than being displaced onto foreign suppliers. Because of these potentially conflicting interests, the measurement of the net costs or benefits associated with developing a domestic import-substitution tobacco sector will need to reflect the particular idiosyncrasies of each situation.

It is sometimes suggested that increased support for the production of other crops as alternatives to tobacco might be an effective way to control tobacco production (Warner, et al, 1986). This policy may have some merit but needs to be considered carefully on a case by case basis. There is reason to believe that there are viable alternatives to tobacco in some areas. For example, vegetables such as tomatoes have been suggested as alternatives to tobacco growing in North Carolina, and there is evidence that they are displacing tobacco cultivation in Tunisia to some extent (U.S. Dept of Agriculture, 1985h). In addition, some farmers in the tobacco growing area of Southern Brazil choose not to grow tobacco because of the large labor input required (Economist Intelligence Unit, 1983). This suggests that tobacco may be only marginally advantageous for quite a few growers in the area. On the other hand, soil and climatic conditions in certain locales, the tobacco growing area in Turkey for example, do not allow for the cultivation of other crops.

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TABLE 6

EXTERNAL COSTS OF SMOKING IN CANADA, SWITZERLAND AND THE U.S.

Country	Estimated Costs per Pack of Cigarettes 1983 U.S. Dollars	Per Capita Expenditure On Medical Care 1982 U.S. Dollars	
	Low Estimate	High Estimate	
1) Ontario Canada			
Health Care Costs (1976 estimates inflated to 1983 U.S. dollars)	\$.06	\$.26	1058
2) Switzerland			
Health Care Costs (1976 estimates inflated to 1983 U.S. dollars)	.05	.09	990
All External Costs (health insurance, social security and disability ins., pensions, sickness benefits)	.12	.23	
3) United States			
Health Care Costs (average of three estimates inflated to 1983 dollars)	.36	1388	

Sources and Methods

Canada: Aggregate health care costs for Ontario as estimated in Stoddert, et al (1986). Inflated to 1983 Canadian dollars by rate of growth in Canadian health care expenditures 1976-83 and converted to U.S. dollars by GDP purchase parity ratios, both ratios reported in OECD, (1985). Aggregate costs divided by estimated consumption get appropriate references.

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Section 1: Introduction

An analysis of Chapters 6, 7 and 8 of the Toxic Substances Board (TSB) report was commissioned by the Tobacco Institute of New Zealand on June 16th for delivery on July 7th.

In order to critically appraise the TSB report a substantial quantity of data had to be collected from many different sources. Infotab played a key and enormously helpful role with this data collection. Nevertheless a sufficiently comprehensive data set was not acquired until July 3rd, leaving 5 days for the computer analysis, report finalisation, writing, and production.

This time scale was obviously too short to produce a fully comprehensive analysis of the TSB report. Nevertheless we believe that the enclosed analysis does adequately review the more controversial points which are made in Chapters 6, 7 and 8.

Dr. L. Hagan
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July 7th 1989

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7. Currently, international trade in tobacco is dominated by several countries. The principal markets for tobacco exports are Western Europe and Japan, high income countries with large populations of smokers and relatively low levels of tobacco production. The major tobacco exporters are the U.S., Turkey, Greece, India and Brazil. Turkey and Greece produce "Oriental" tobacco which is used for flavoring purposes in blending modern cigarettes. Brazil and to a lesser extent India, however, are examples of countries whose tobacco industry has benefitted from the U.S. tobacco subsidy program and would be injured by a change in U.S. policy.

8. This observation needs to be qualified by the realization that the high taxes levied on tobacco products in many countries drives a wedge between the price producers receive for tobacco and the value placed on the crop by consumers. In the absence of the deleterious health effects associated with tobacco, there would be reason to believe that welfare could be increased by removing subsidies and taxes and increasing production. Given the dire health effects of such a laissez faire policy, however, the evaluation of the gains and losses resulting from the current strongly controlled market is problematic.

9. This speculation is based in part on the observation that although in some developed countries, smoking accounts for as much as 90% of lung cancer and only 25% of cardiovascular disease, the increment in cardiovascular disease accounts for more premature mortality, morbidity, and economic costs than does the increment in lung cancer (Rice, et al, 1986).

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AREA	% Change Cigs	% Change Pop	% Change Cig/Pop	Cigs/Pop
EEC				
BELGIUM	-.017	.001	-.018	2055
DENMARK	-.0002	-.001	.0008	1636
FRANCE	.006	.005	.001	1608
GER(FRG)	-.001	-.001	0	1867
GREECE	.022	.009	.013	2027
IRELAND	.002	.012	-.010	1778
ITALY	.019	.002	.017	1854
NETHERLANDS	-.079	.005	-.084	1652
U.K.	-.047	.001	-.048	1818
REG TOT	-.010	.003	-.013	
Other Europe				
AUSTRIA	.005	.002	.003	2111
FINLAND	.028	.005	.023	1148
ICELAND	.023	.011	.012	
MALTA	.043	-.005	.048	
NORWAY	-.032	.004	-.036	556
PORTUGAL	.005	.004	.001	1371
SPAIN	.015	.006	.009	2658
SWEDEN	-.002	.001	-.003	1543
SWITZ	-.008	.004	-.012	2171
REG TOT	.007	.004	-.003	
Eastern Europe				
ALBANIA	.023	.021	.002	786
BULGARIA	-.002	.030	-.032	2472
CZECH	.034	.030	.004	1812
E.GER	.011	-.002	.013	1796
HUNGARY	.006	-.001	.007	2570
POLAND	.006	.009	-.003	2517
ROMANIA	.019	.005	.014	1593
YUGOSLAVIA	.023	.003	.015	2323
REG TOT	.011	.004	.007	
USSR	.010	.009	.001	1715

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APPENDIX TABLE
Trends in Cigarette Consumption World-Wide

AREA	% Change Cigs	% Change Pop	% Change Cig/Pop	Cigs/Pop
North America				
BARBADOS	.016	.003	.013	785
BELIZE	.024	.018	.006	
CANADA	.003	.011	-.014	2797
COSTA RICA	-.011	.027	-.038	368
CUBA	.027	.010	.017	2957
DOM. REP.	.021	.027	-.006	614
EL SALVADOR	.002	.011	.009	508
GUATEMALA	-.006	.032	-.038	325
GAUDELOPPE			.016	
HAITI	.007	.016	-.009	316
HONDURAS	.015	.031	-.016	563
JAMAICA	-.029	.017	-.046	550
MARTINIQUE				
MEXICO	-.014	.026	-.040	
NICARAGUA	.041	.032	.009	846
PANAMA	.011	.020	-.003	599
TRIN-TOBAGO	.034	.015	.011	1318
USA	-.002	.010	-.012	2678
REGION TOT	.0005	.014	-.014	
South America				
ARGENTINA	.009	.016	-.007	1136
BOLIVIA	-.027	.026	-.053	206
BRAZIL	.002	.023	-.021	1051
CHILE	-.024	.015	-.039	847
COLUMBIA	.080	.021	.059	673
ECUADOR	.026	.027	-.001	508
GUYANA	.005	.005	0.0	656
PARAGUAY	-.015	.028	-.043	521
PERU	.015	.025	-.010	216
SURINAM	.010	.012	-.002	975
URUGUAY	.011	.003	.008	1241
VENEZUELA	.001	.031	-.030	1089
REGION TOT	.012	.022	-.010	

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AREA	%Change Cigs	% Change Pop	% Change Cig/Pop	Cigs/Pop
Africa				
ALGERIA	.068	.031	.037	861
ANGOLA	.002	.024	-.022	375
BENIN	.018	.029	-.016	
E. FASC	.079	.026	.053	
CAMEROON	.110	.025	.085	175
CAPE VERDE	.031	.010	.024	117
CHAD	.025	.03	-.012	
CONGO	.019	.028	-.006	521
EYGPT	.084	.028	.056	872
ETHIOPIA	.012	.018	-.006	48
GHANA	-.018	.032	-.050	218
GUINEA	.026	.027	-.001	17
IVORY COAST	.025	.040	-.014	422
KENYA	.053	.041	.012	283
LIBERIA	-.001	.032	-.023	
LYEIA	.017	.054	-.037	1688
MADAGASCAR	.050	.028	.022	
MALAWI	.166	.031	.135	181
MAURITIUS	.025	.013	.012	
MOROCCO	.029	.029	-.006	537
MOZAMBIQUE	.017	.025	-.008	221
NIGER	.005	.022	-.027	
NIGERIA	-.020	.034	-.054	98
REUNION	.023			
SENEGAL	.011	.032	-.021	448
SIERRA LEONE	.002	.025	-.023	396
SOUTH AFRICA	.021	.025	-.004	1002
SUDAN	.000	.030	-.030	37
TANZANIA	-.011	.031	-.042	209
TOGO	.023	.030	-.007	
TUNISIA	.038	.025	.013	768
UGANDA	.012	.027	-.015	146
ZAIRE	-.001	.028	-.029	126
ZAMBIA	.034	.032	.002	223
ZIMBABWE	-.030	.030	-.060	316
REGION TOT	.041	.030	.011	

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Section 4: A Review of Chapters 6, 7 and 8 of the TSB Report

The chapters of the TSB report that deal with advertising suffer from six basic flaws.

First, the report makes many fundamental assumptions about how advertising works, which are demonstrably quite wrong.

Second, the report uses a great deal of data which can be shown to be highly misleading. Many of the reports conclusions are thereby invalidated.

Third, although the report also uses a great deal of data which is valid, the authors of the report appear to have used these data in a selective and partial manner, thereby invalidating much of the useful work done.

Fourth, even when using the correct data, the TSB authors use methods that place great reliance on data from Portugal. These data are volatile. Inclusion of more recent data (available in the TSB report) changes completely the conclusions that can be drawn from the analysis.

Fifth, the report draws conclusions on the basis of a small literature survey. Unfortunately, useful though the survey is, many key articles, and in particular reviews of the relevant literature, have been ignored. This has led to a great deal of confusion and error.

Sixth, the report contains many small errors, methodological faults and factual mistakes. Individually few of these transgressions are of consequence. Collectively they invalidate many of the conclusions drawn.

This section of our report deals with each of these areas of criticism in turn.

4.1 Fundamental Assumptions Made by the TSB Report

The TSB report contains many statements that reflect the fundamental assumptions made by the authors about how advertising works. For example:

"the reason that ~~manufactures~~ advertise ~~tobacco~~ (emphasis added) to expand market size"

"In the United States in 1987 manufacturers spent 1.66 billion dollars on advertising tobacco. It is ~~impossible~~ (emphasis added) that promotion on this scale has no effect on total sales."

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AREA	% Change Cigs	% Change Pop	% Change Cig/Pop	Cigs/Pop
<u>1975-79 to 1984</u>				
Asia				
CHINA	.090	.012	.078	900
TAIWAN	.053	.017	.036	1531
JAPAN	.005	.007	-.002	2636
S. KOREA	.043	.015	.028	1747
INDIA	.031	.021	.010	146
Balance of Region	.028	.025	.003	
Region tot	.054	.018	.036	
Africa				
EYGPT	.084	.028	.056	872
MALAWI	.166	.031	.135	181
NIGERIA	-.020	.034	-.054	98
ZIMBABWE	-.030	.030	-.060	319
Balance of Region	.033	.030	.003	
Region tot	.041	.030	.011	
Americas(Balance)				
BRAZIL	.002	.023	-.021	1051
COLUMBIA	.080	.021	.059	873
MEXICO	.014	.026	-.040	
VENEZUELA	.001	.031	-.030	1089
Balance of Region	.023	.020	.003	
Region Tot	.013	.022	-.009	
WORLD	.0256	.017	.008	

Definitions and Sources:

% CHANGE CIGS=ANNUAL COMPOUND RATE OF GROWTH OF CIGARETTES
 (U.S. Dept. of Agriculture, 1985c)(Calculations by author)

% CHANGE POP=AVERAGE ANNUAL PERCENT CHANGE IN POPULATION
 (U.S. Bureau of the Census, 1985)

% CHANGE CIGS/POP=RATE OF CHANGE IN PER CAPITA CIGARETTE CONSUMPTION(Calculations by author)

CIGS/POP=PER CAPITA CIGARETTE CONSUMPTION 1982(Collinsshaw and Mulligan, 1984)

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Per Capita Consumption of Manufactured Cigarettes
in 110 Countries and Territories, 1982

Country or territory	Consumption (per capita)	Country or territory	Consumption (per capita)
Cyprus	3117	Jordan	867
Greece	2927	Algeria	861
Cuba	2857	Belize	850
Canada	2797	Chile	847
United States of America	2678	Nicaragua	846
Spain	2658	Albania	786
Japan	2636	Barbados	785
Hungary	2570	Tunisia	768
Poland	2517	Democratic People's Republic of Korea	713
Bulgaria	2472	Guyana	656
Australia	2340	Jamaica	650
Yugoslavia	2323	Dominican Republic	614
New Zealand	2305	Thailand	605
Switzerland	2171	Panama	599
Austria	2111	Indonesia	577
Belgium and Luxembourg	2055	Iraq	574
Singapore	1961	Honduras	563
Hong Kong	1957	Norway	556
Lebanon	1926	Morocco	537
Germany, Federal Republic of	1867	Congo	531
Italy	1854	Paraguay	521
United Kingdom of Great Britain and Northern Ireland	1818	El Salvador	508
Czechoslovakia	1812	Ecuador	508
German Democratic Republic	1796	Senegal	448
Ireland	1778	Viet Nam	424
Republic of Korea	1747	Côte d'Ivoire	422
Union of Soviet Socialist Republics	1715	Sierra Leone	419
Libyan Arab Jamahiriya	1688	Pakistan	396
Israel	1656	Angola	375
Netherlands	1652	Iran (Islamic Republic of)	364
Denmark	1636	Sri Lanka	341
France	1608	Guatemala	325
Romania	1593	Zimbabwe	319
Sweden	1543	Haiti	316
Taiwan (province of)	1531	Kenya	283
Portugal	1428	Zambia	223
Philippines	1371	Mozambique	221
Trinidad and Tobago	1318	Ghana	218
Turkey	1305	Peru	216
Uruguay	1241	Lao People's Democratic Republic	209
Malaysia	1222	Bolivia	206
Mauritius	1215	Malawi	197
Finland	1148	United Republic of Tanzania	181
Argentina	1136	Cameroon	175
Venezuela	1089	Bangladesh	170
Brazil	1051	Uganda	146
Syrian Arab Republic	1049	India	141
Democratic Yemen	1038	Zaire	129
South Africa	1002	Cape Verde	117
Fiji	986	Nigeria	98
Suriname	975	Nepal	83
China	900	Burma	71
Colombia	873	Ethiopia	48
Egypt	872	Sudan	37
Costa Rica	868	Equatorial Guinea	17

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Source: Collin Shaw and Mulligan (1984)

Section 3: The Approach Adopted

The Toxic Substances Board report is an extensive document containing many observations, statistics and analyses. The main conclusions regarding advertising have been drawn from three quite different sources.

First, conclusions have been drawn from a set of beliefs and assertions regarding how advertising works; second from various literature searches; and third, from a study of advertising policies and tobacco consumption trends in 33 countries.

In appraising the report we first looked at the entire document. We have identified certain deficiencies in methodology, some errors and omissions, and a variety of other problems that we believe exist and which detract from the report's usefulness.

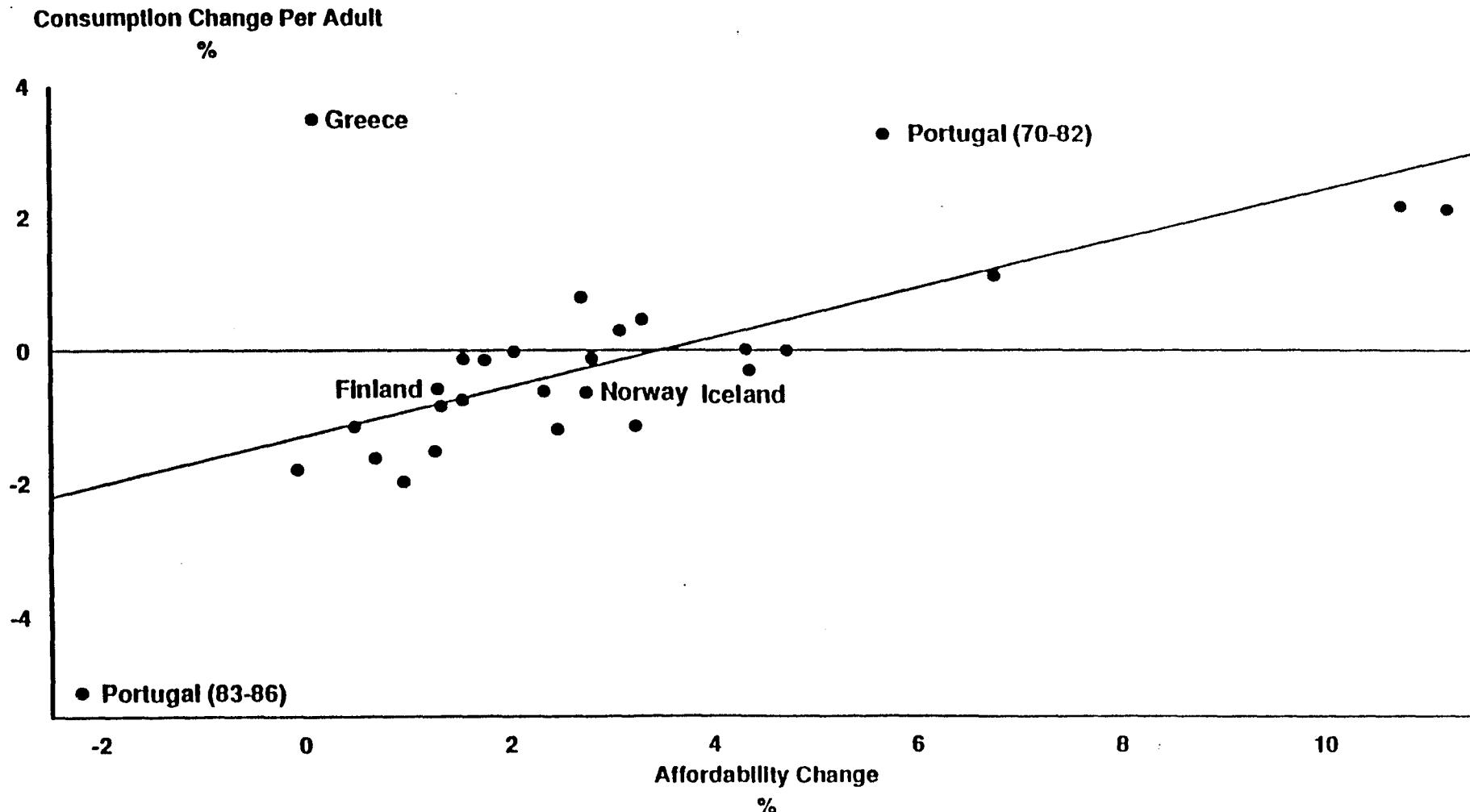
We conducted an international literature search in order to bring together data and evidence from all sources available at the time of writing, including a number of key sources not utilised by the TSB authors. This evidence, combined with evidence deriving from the previous stage of research allowed conclusions to be drawn regarding the incomplete nature of the information and analyses used in the TSB report.

We then undertook a rigorous examination of the data presented in the TSB report.

Finally, we have attempted to produce an overall review of the validity of the TSB evidence in the light of identified error, our own re-analysis of TSB data, and our worldwide literature searches.

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**Fig. 5.6 INTERNATIONAL CIGARETTE TOBACCO CONSUMPTION
Annual Change % vs Affordability Change**



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"Consumption of all tobacco for smoking is measured," because "any kind of tobacco for smoking is a toxic substance from the point of view of this report, and total tobacco consumption for smoking, rather than just its manufactured cigarette component, has therefore been measured for each country, as data permitted."

Nevertheless, in the next two paragraphs it also claims that:

"cigarettes were counted by numbers", "as cigarettes are sold by number not weight...This eliminates the effect of lower tobacco content and cigarette weights in recent decades..."

As a result, it is not clear just how the consumption figures have been arrived at.

A further example of the deficiencies of the data presented by the TSB report include the fact that the extent of an advertising ban has been calculated on a 10-point scale, and this has been described in some detail. However, the calculations for each country in the study are not shown, so it is impossible to verify.

The report also claims to "allow for supply factors" and "allow for distortions in recorded consumption" in various countries, but at no point explains how this has been done, or on what basis. Because of the issues which affect these two factors, it seems highly unlikely that sufficient evidence exists to undertake such an 'allowance', thus giving an air of quite spurious additional authenticity to this study.

Summary of Section 4

The many problems listed above are more than sufficient to invalidate the conclusions drawn by the authors. The TSB work is incomplete, and misleading in almost all respects.

Its central theme (that tobacco advertising has a pronounced impact on tobacco sales, and that therefore a ban on tobacco advertising would cut consumption), cannot be justified on the basis of the evidence and analysis presented in the report 'Health or Tobacco'.

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"Commonsense (and empirical evidence) would also argue that when soap manufacturers promote many different brands of soap, they also promote overall soap sales - and cleanliness. A corollary, then, suggests that when tobacco manufacturers advertise and promote many brands of tobacco for smoking, overall tobacco sales are also promoted."

"Tobacco advertising expenditure can be economically justified by generating extra sales, either from

- (1) current smokers switching to the advertised brand, or
- (2) ex-smokers taking up smoking again, or
- (3) current smokers being persuaded to smoke more cigarettes, or
- (4) more new young smokers being persuaded to start than would have otherwise.

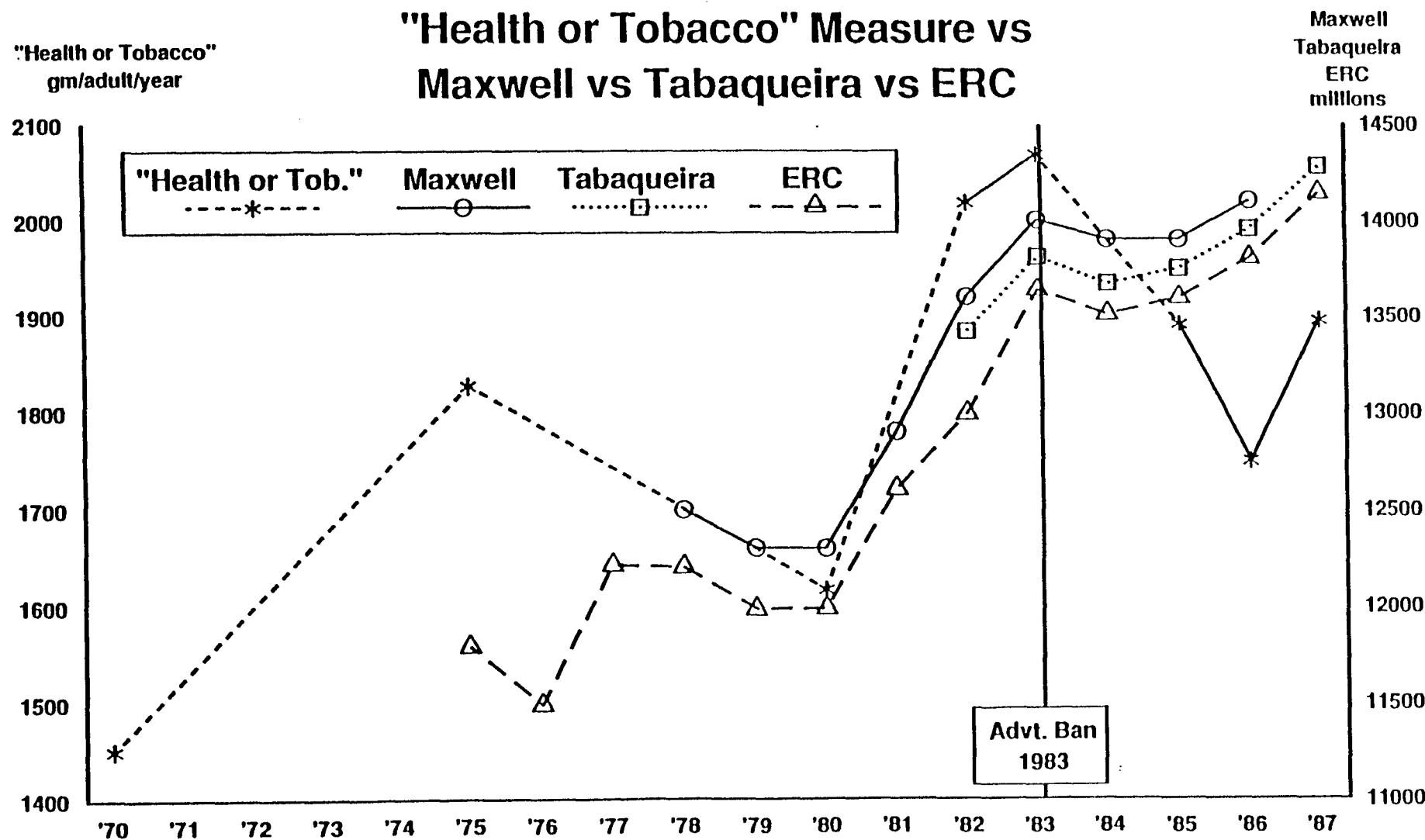
Detailed calculations show that tobacco manufacturers are now probably spending in excess of ten times more per year on advertising than they are likely to gain in the same time by brandswitching. Brandswitching, the industry's justification for advertising, accounts for only 7 percent of the economic return from maintaining tobacco advertising and sponsorship. This is the best estimate of the situation in the light of information that is currently available in the public domain. The conclusion is that over 90 percent of the tobacco advertising expenditure can only be recouped if tobacco advertising increases the number who smoke, particularly by attracting new smokers to smoking."

These statements are intuitively appealing. However, they reflect a view of advertising which is demonstrably a long way from the hard reality known to the thousands of marketing executives who use advertising as a day-to-day tool of their trade.

Explaining to non-marketing people the exigencies of 'life at the coalface' in a competitive consumer market is a difficult and lengthy business. Appendix 1 '*The Role of Advertising*' attempts to explain why advertising is used, and what it can and cannot do. Although such an explanation of the marketing process is necessary to place fully in context the erroneous nature of the TSB assumptions, it is not necessary in order to demonstrate that the TSB's statements are wrong.

The first part to note in this context is that the TSB advances very little evidence in support of its highly tendentious claims. No evidence is put forward to support the massively broad claim that the reason monopolies advertise must be to expand market size, other than a table showing the large (but not complete) market share of monopolies in these countries. No reference is made to ~~absolute monopolies~~ and ~~absolute~~ ~~monopolies~~ No reference is made to the obvious

Fig. 5.2 CIGARETTE TOBACCO CONSUMPTION: PORTUGAL
"Health or Tobacco" Measure vs
Maxwell vs Tabaqueira vs ERC



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The analysis presented below will show there are reasons to believe both statements are incorrect, and that the conclusions of the TSB are at variance with the evidence on which they are claimed to be based.

5.2 A General Discussion of the Data and the Approach Adopted

The study attempts to establish the impact of advertising restrictions by examining the trends in cigarette consumption within 33 countries. The two key questions asked in the report are

'Are tobacco advertising bans accompanied by falls in consumption ?'

and

'Are tobacco bans worthwhile ?'

It is interesting that the first question talks about 'accompanied by' rather than causes, because the implication must be that there is a causative relationship if a ban is to be effective in reducing consumption and be 'worthwhile' in the language of the second question. This critique assumes that the report has actually attempted to establish a causal relationship.

In doing this the authors have firstly developed a measure of cigarette smoking which they claim to be 'reliable', and claims to allow for the various distortions in conventional measures. This is to be commended. Unfortunately, it is not possible fully to understand how they have arrived at their measure, and as has been pointed out in Section 4.5.2 of this document, there are apparent contradictions in their claimed methodology for dealing with weight and numbers of cigarettes. Without an explanation of their calculations it is not possible to establish the authenticity of their approach to consumption.

Notwithstanding these reservations we have accepted their figures for the purpose of examining their conclusions, and this work is presented in Section 5.5 later. The one exception to this is Portugal, which because of its central importance to their conclusions we have examined in detail and concluded that there was an aberration in the end year used for the post-ban period (see Section 5.3 later).

The calculation of the change in the measure of consumption can also be criticised on the grounds that a simple arithmetic percentage change figure is used instead of a proper compound (multiplicative) measure ie. the % change over a period is calculated and this is then simply divided by the number of years in the period. This procedure is used for all data. It is likely to produce markedly inaccurate results if the rate of growth or decline in the data is over about 5% per year. Some bias will have been introduced by this but given the nature of their analysis this will probably not have had a material effect. Again in our analysis we have deliberately used the

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AREA	% Change Cigs	% Change Pop	% Change Cig/Pop	Cigs/Pop
Asia				
AFGHANISTAN	.073	-.013	.086	
BANGLADESH	.028	.028	0	170
BRUNEI	.079	.036	.046	
BURMA	.030	.020	.010	71
TAIWAN	.053	.017	.036	1531
CHINA	.090	.012	.078	900
CYPRUS	.057	.080	-.023	3117
HONG KONG	-.071	na	NA	1957
INDIA	.031	.021	.010	146
INDONESIA	.055	.022	.033	577
IRAN	-.037	.031	-.068	364
IRAQ	.005	.033	-.028	574
ISRAEL	.022	.022	0	1656
JAPAN	.005	.007	-.002	2636
JORDAN	.065	.039	.026	867
KAMPUCHEA	.001	.018	-.017	
N. KOREA	.029	.023	.006	713
S. KOREA	.043	.015	.028	1747
KUWAIT	-.004	.062	-.066	
LAOS	.008	.019	-.011	209
LEBANON	.032	-.005	.037	1926
MALASIA	-.002	.023	-.025	1222
NEPAL	.017	.025	-.008	83
PAKISTAN	.043	.030	.018	396
PHILIPPINES	.019	.024	-.006	1371
SAUDI ARABIA	.049	.034	.015	
SINGAPORE	.034	.012	.012	1961
S. YEMEN	.002	.026	-.027	1038
SRI LANKA	.017	.018	-.001	325
SYRIA	.067	.026	.031	1049
THAILAND	.028	.020	.008	590
TURKEY	.010	.022	-.012	1305
VIETNAM	.018	.024	-.006	448
U.A.E	.023	.062	-.039	
REGTOT	.054	.018	.036	

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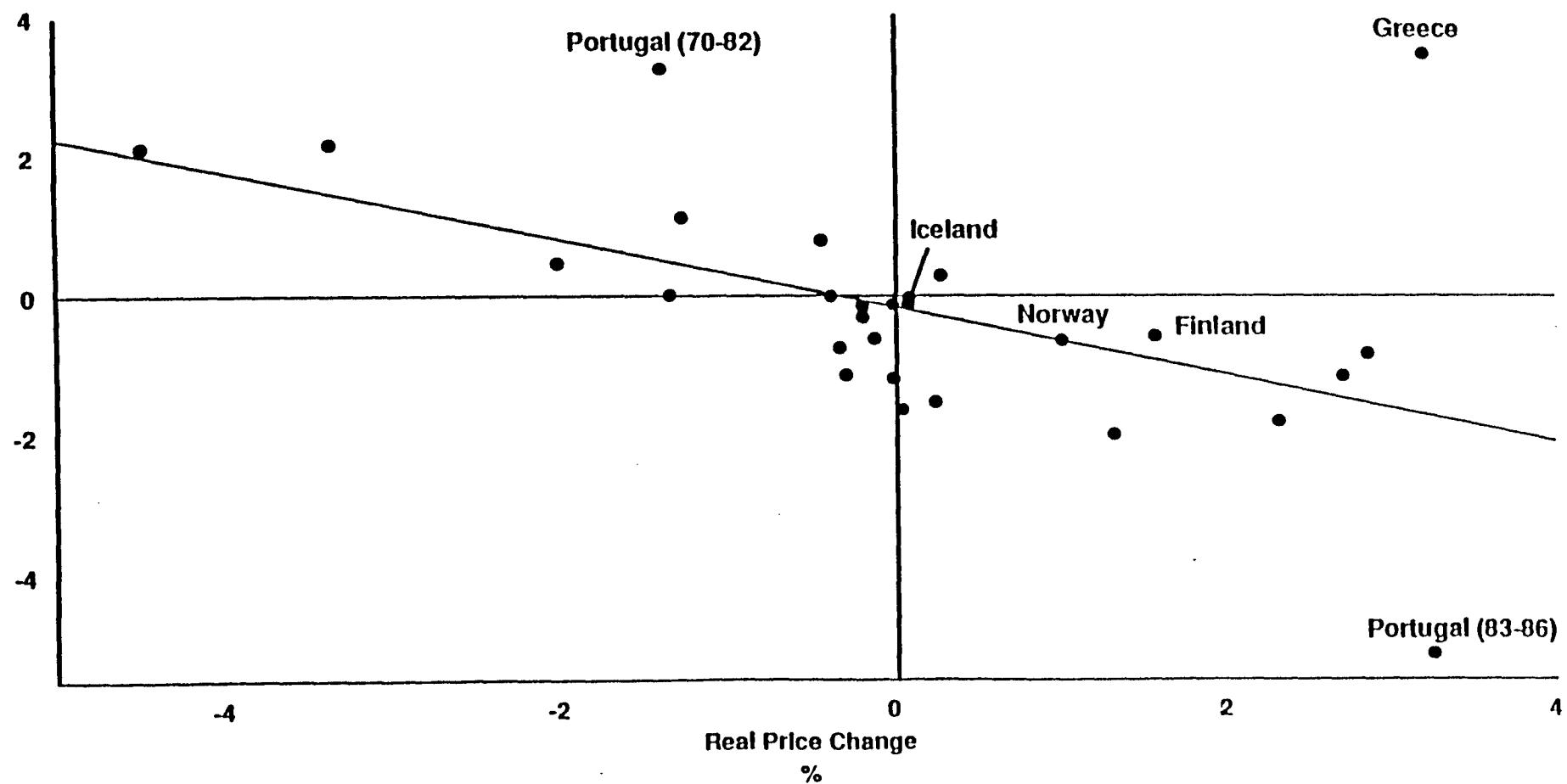
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**Fig. 5.3 INTERNATIONAL CIGARETTE TOBACCO CONSUMPTION
Annual Change % vs Real Price Change**

Consumption Change Per Adult

%



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Section 5: A Detailed Examination of the New Evidence Presented Concerning the Impact of Advertising Restrictions on Consumption.

5.1 The Background to the New Study Reported in 'Health or Tobacco'

The report contains details of a new study commissioned by the Tobacco Subcommittee of the TSB from the New Zealand Department of Health. The findings form the main substance of the case in favour of an advertising ban in New Zealand.

Little real information was provided about the depth of scrutiny undertaken in this 33 country analysis, and the choice of countries appears somewhat eclectic (OECD plus Singapore, but excluding for no particular reason, Hong Kong for which good data exists).

Much was claimed for the study and in Section 7.4 entitled 'Methodology of Department of Health's Study' it was stated that in an effort to avoid the deficiencies in previous studies this work broke new ground, *inter alia* allowing for price and income changes which the report regarded as being important influences, and using a more accurate consumption measure of total cigarette tobacco per adult.

These and other claims for this study have been discussed briefly in Section 4 of this document. After careful examination of the published report it must be concluded that there was no formal incorporation of the vital economic considerations in the analysis underpinning the results that were presented. The report relies on simply grouping countries by category of advertising restriction to arrive at its conclusions, and claims that this overcomes the problems caused by the varying economic conditions affecting cigarette consumption from country to country.

As the report states

'Grouping of countries by advertising restriction policy, and knowledge of the effects of incomes and tobacco prices on consumption, enable conclusions to be drawn about the effects of advertising policies. The overall conclusions of this study are robust and will not be upset by including or omitting one country.'

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desire of monopolies to keep import sales down, or to announce to consumers new, perhaps higher margin, products. And so on.

No evidence is put forward to support the claim that the tobacco advertising expenditure in the USA must influence sales in total. Only one ancient and much criticised study is put forward to support the argument that soap advertising promotes soap sales. No evidence at all is given to support the assertion that "over 90% of tobacco advertising can only be recouped if advertising increases the number who smoke."

There is however a great deal of evidence (nowhere mentioned in the TSB report) to support the view that advertising expenditure is unlikely to influence the total size of large mature markets or indeed the economy as a whole.

A number of reviews of this large body of evidence have been conducted in recent years, by totally independent Government employees, researchers and academics.

For example, a recent ~~Federal Trade Commission, Bureau of Consumer Protection~~ review of the available literature (including the Comanor & Wilson's study quoted by the TSB) relating to the subject:

"A number of studies use statistical techniques and real world data to test for the effect of advertising on total consumption in each of many industries over a period of a decade or longer. These studies generally estimate the effect of advertising on consumption while using statistical techniques to hold constant the effects of variables such as industry price and consumer income. Because price is held constant, the results of these studies can be interpreted as estimates of the effect of advertising on consumer demand for an industry's product.

"We reviewed the most important of these studies as well as other reports that survey this literature. ~~These studies indicate that advertising has little or no effect on consumer demand for most products.~~ (emphasis added).

"The principal exception of this generalization is a controversial study by Comanor & Wilson, for which the principal results cover 28 industries during 1948-64. Comanor & Wilson found that advertising had a significant positive effect on industry demand in 10 industries. This study and its results have been widely criticised (emphasis added). One problem is the use of IRS data for advertising expenditures. Grabowski (1976) used different advertising data and found no impact of advertising on total demand."

There is also a great deal of evidence deriving from the impact of advertising in industry sectors comparable in terms of economic maturity with the tobacco industry. Here again the evidence conflicts totally with the TSB position.

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Section 2 Summary and Conclusions

The TSB report is an extensive document. Although substantial, and visually very well presented, the report contains a great many errors and misconceptions, and much invalid data and analysis.

There are six main areas of criticism.

First, the authors of the report have made some fundamental assumptions about how advertising works. These assumptions are almost all demonstrably wrong. The TSB report betrays a total lack of understanding of how consumer markets operate, and the role of advertising within these markets. Furthermore the TSB report has advanced no serious evidence in support of its case and has failed to take into account or consider in any way the large body of evidence now available from independent sources which contradicts the views advanced by the TSB. This flaw in the report is very serious, and in the opinion of the authors of this appraisal, is sufficient to invalidate many of the reports findings.

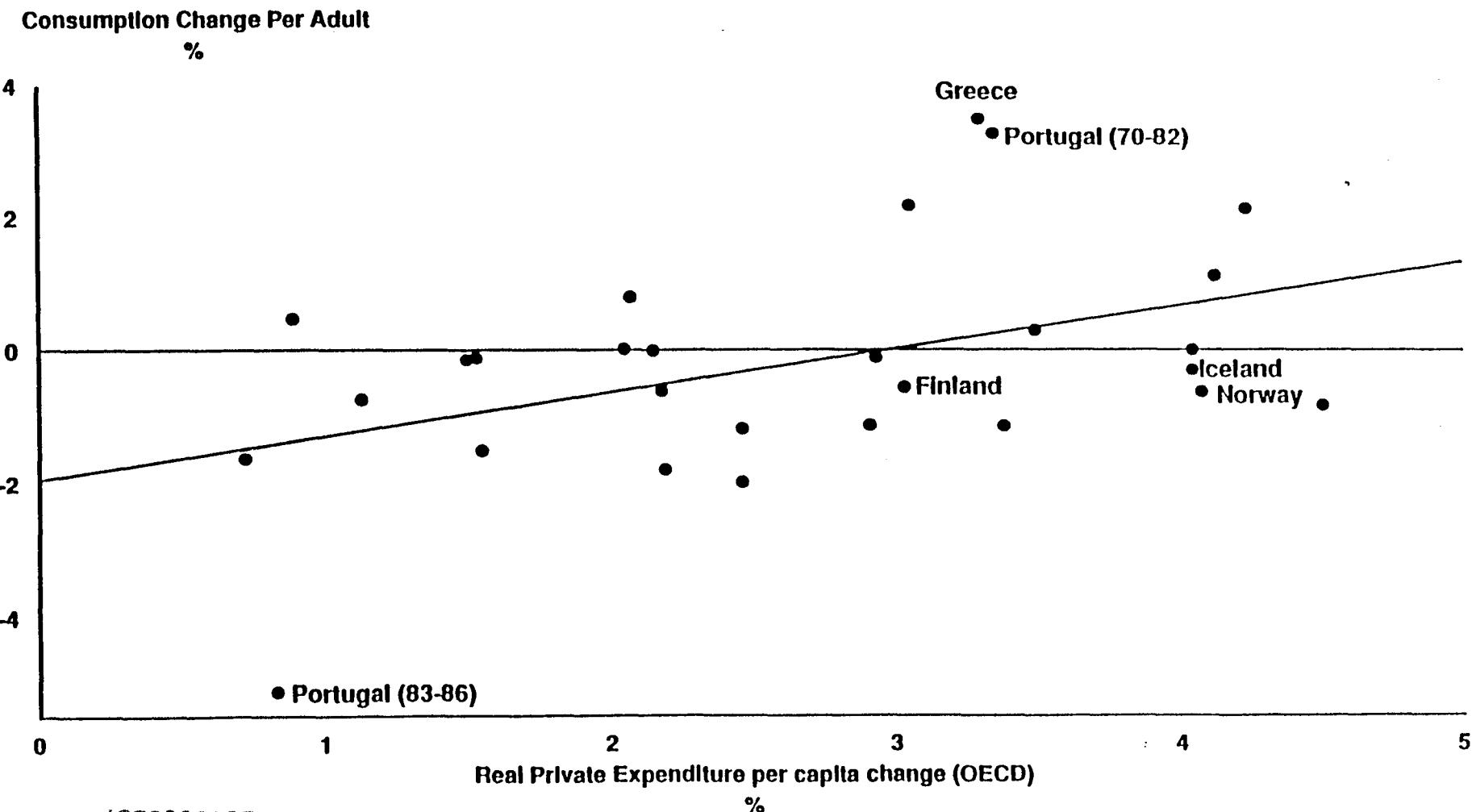
Second, the report uses a lot of market size and structure data derived from surveys to justify the conclusions reached. Market survey data covering tobacco consumption is always prone to very considerable error. This is a matter of fact not opinion. The large error to which the data is subject invalidates all conclusions drawn from this source.

Third, the report also uses the much more reliable tobacco consumption data derived from national statistics, taxation authorities and other such sources. Unfortunately these data are not directly comparable. For example, the methodology used in general is to compare trends after an advertising ban with trends in other countries where a ban has not taken place. Little account has been taken of the trends in the countries where no ban has taken place, which is of course crucial information. The TSB's manner of usage of tobacco consumption data thus undermines the conclusions they have drawn.

Fourth, even accepting the TSB's methodology and consumption data, the conclusions the TSB has drawn from its analysis are still not valid. The reason is that the data used for Portugal is not representative of Portugal. Further analysis has revealed that the data used for Portugal is volatile and, in addition, if the later data presented in the TSB report is incorporated into their analysis, the reason for the TSB's superficial conclusion largely disappears. A reworking of the TSB data, using a more rigorous statistical approach, demonstrates no impact of increasing advertising restrictions on tobacco consumption.

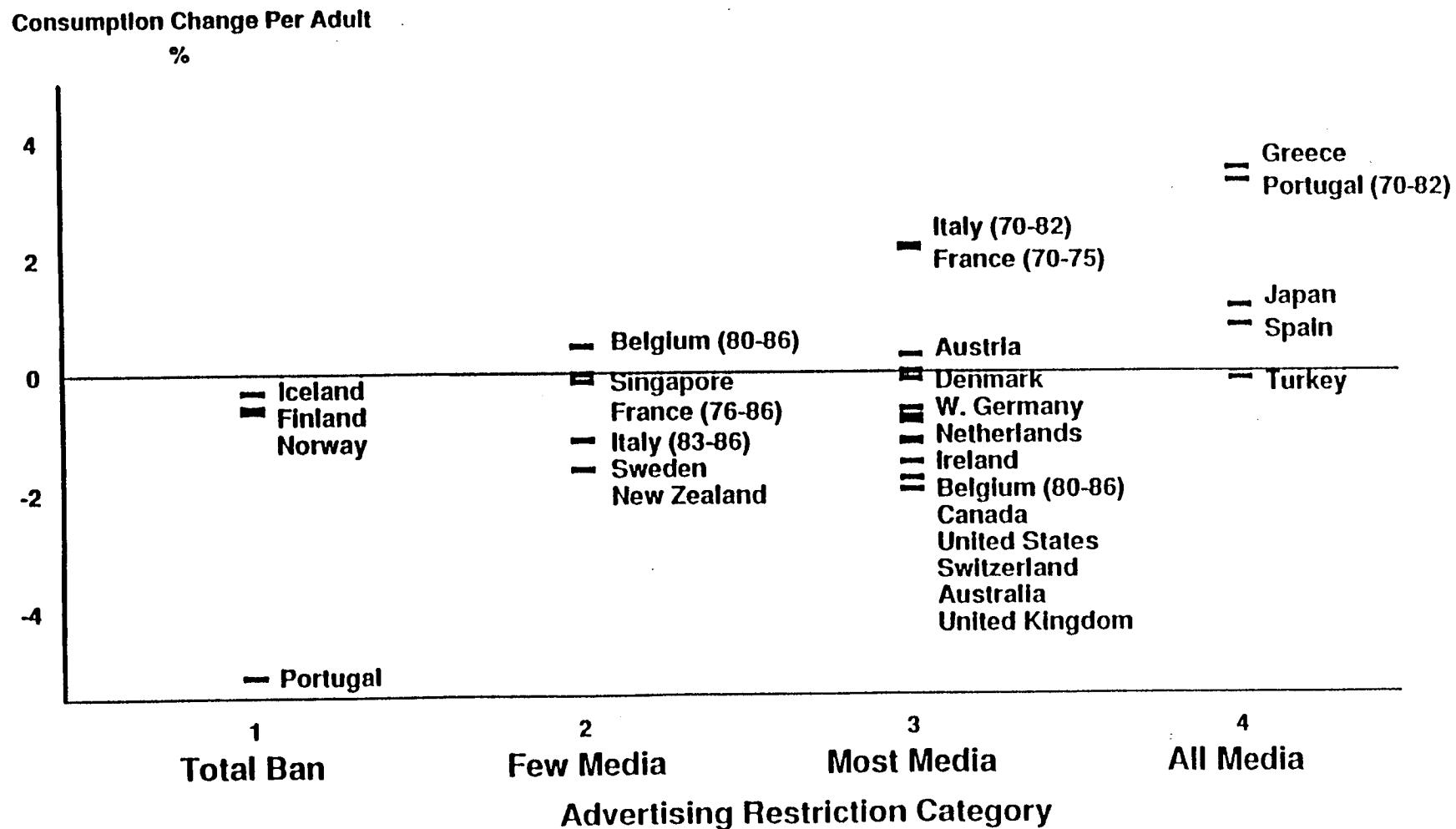
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Fig. 5.5 INTERNATIONAL CIGARETTE TOBACCO CONSUMPTION
Annual Change % vs Real Private Expenditure (OECD)



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**Fig. 5.1 INTERNATIONAL CIGARETTE TOBACCO CONSUMPTION
Annual Change % vs Ad. Restriction Category**



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Appendix 2 Per Capita Tobacco Consumption Trends in OECD Countries with and Without a Tobacco Advertising Ban

This appendix comprises four basic tables which list respectively tobacco consumption data derived from individual national sources; the World Health Organisation; Maxwell research; and the Tobacco Merchants of the US special reports.

These data are combined into one table on page 11 of the report.

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positive relationship between income growth and cigarettes consumed, and many of these papers are referred to in the TSB report.

The relationship between consumption change and the TSB income change is shown in Fig 5.4, exactly as for price previously. The lack of any clear positive relationship is evident. This prompted the use of alternative data for income, and the best source was considered to be the OECD Private Consumption per capita measure. This was transformed exactly as the previous TSB data. Not surprisingly considerable discrepancies are obvious , and Austria and Belgium now have positive growth in keeping with the European economic development of the past 15 years.

The relationship between consumption change and the OECD personal income change is shown in Fig. 5.5 , where a positive trend is much more clearly evident than with the TSB data.

5.4.3 The Affordability Concept for Cigarettes

The likely significant effects of price and income led to an examination of the affordability concept for cigarettes as a means of explaining consumption trends. This was used in the TSB report on a priori grounds without any specific justification from their own data , and basically is a simple combination of price and income. They expressed it in a form that is the inverse of affordability, but we use it here in a more conventional form. It is defined here as OECD real income divided by TSB real price and expressed in % change form exactly as before. This is graphed against consumption changes in Fig. 5.6. The stronger, more defined relationship than for either price or income (OECD) separately is clear.

Obviously the economic forces have played a major part in determining consumption changes in the countries studied, and their effects are systematic and measurable. Their omission from the analysis presented in the TSB report therefore seriously undermines the validity of the findings regarding the differential impact of advertising restrictions.

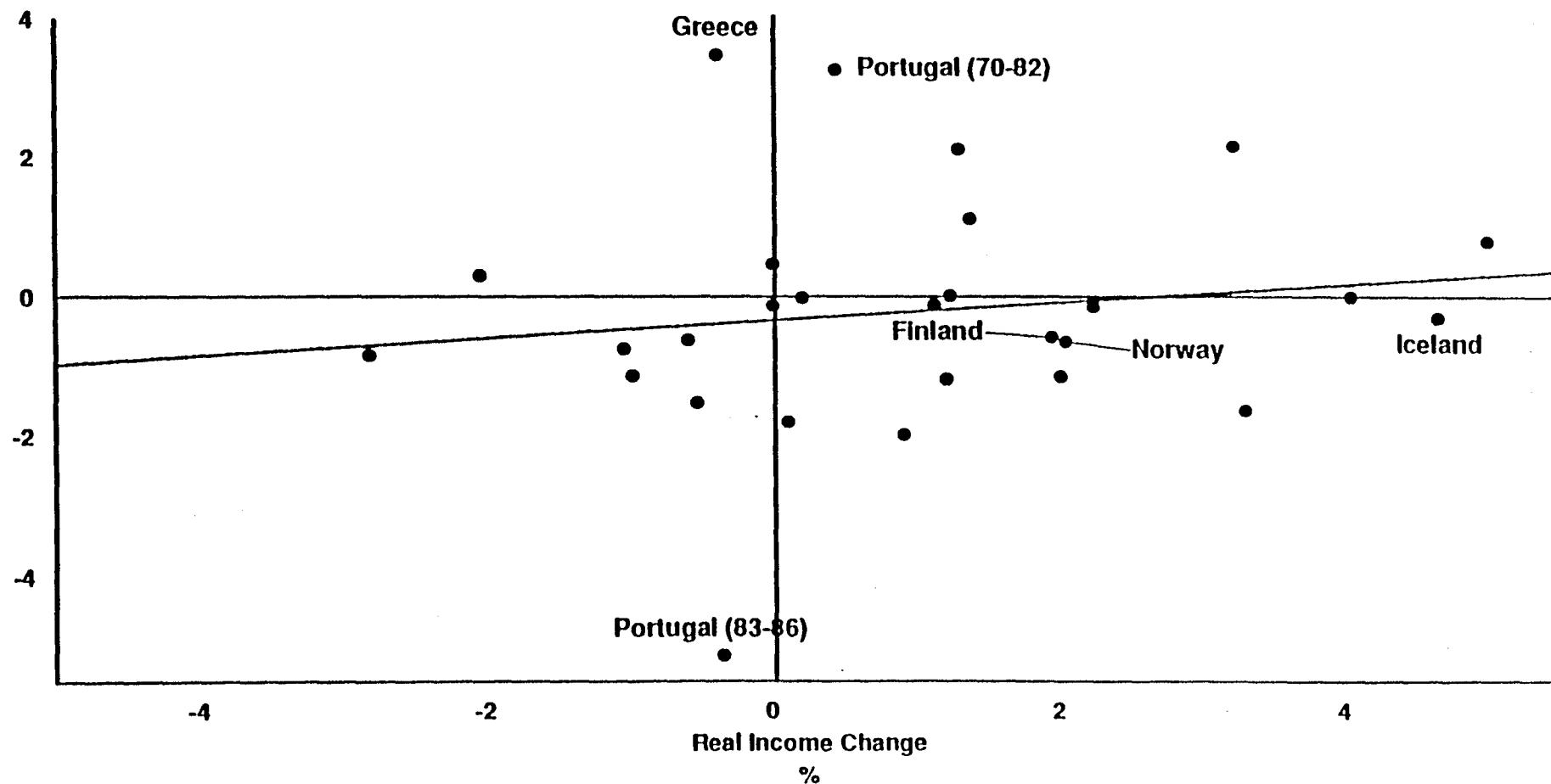
The affordability idea implies that a 1% real decrease in price has the same effect as a 1% increase in real income, and vice versa, and is clearly an oversimplification of the true responses which are likely to be different. This simple examination of price and income suggested that a more rigorous investigation of the simultaneous effects of these two economic factors would be beneficial, and this is now described.

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**Fig. 5.4 INTERNATIONAL CIGARETTE TOBACCO CONSUMPTION
Annual Change % vs TSB Real Income Growth**

Consumption Change Per Adult

%



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5.5 A Re-Analysis of the 'Health or Tobacco' Multi-Country Study

5.5.1 A Simple Economic Model of Cigarette Consumption

In this section a simple cross-sectional econometric model of consumption is developed to examine the extent to which the differential effects of price and income are able to explain the consumption changes in the context of the different levels of advertising restrictions. This allows us to examine directly in a rigorous statistical manner the possible impact of advertising restrictions.

For reasons indicated earlier Greece and Portugal are excluded from this analysis, which is based on the remaining 22 'western' countries.

We are seeking to explain the changes in consumption reported in the 'Health or Tobacco' study as a function of:

- 1) the real price change of cigarettes in the country (from the report)
- 2) the real income per capita change (OECD private consumption)
- 3) the advertising restriction classifications (from the report)
- 4) a possible constant (indicating an autonomous trend)

All change factors are calculated as in the TSB report and the model was linear in form in the spirit of the TSB work. The technical details of the model and the results are given in the Appendix.

5.5.2 The Modelling Results and the Implications of the Price and Income Findings

The results showed that the model was very satisfactory in terms of the statistical test criteria. The model demonstrated that the vast majority of the difference in country to country trends in consumption could be explained on pure economic grounds alone.

The extent to which this simple economic model was able to account for the inter-country variation is shown in Fig. 5.7. The bars represent the actual consumption change in the individual country and the broken line is the model estimate. As can be seen the actual and model are in broad agreement.

Real price was the most important determinant of cigarette consumption and income (as defined by OECD data) was also strongly significant. The estimated implied elasticities of demand are given in the table below:

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4 in the report) is an obvious error. However it is still surprising that information was not provided as it is clearly considered important by the authors of the TSB report.

However, the strong indication from the results here is that there is likely to be no significant relationship between consumption trends and the score after due allowance is made for economic considerations.

5.5.4 A Further Look at Portugal : The Forecast for the 1983-87 Period

It can also be seen that Portugal in the 83-86 period is included in Fig 5.7, with in this case a model forecast based on the relevant economic data. The forecast appears to be much lower than the actual, but as has been discussed earlier this is due to the abnormally low 1986 actual reported in 'Health or Tobacco'.

Economic data for Portugal in 1987 has been obtained and a consumption forecast has been made for the 1983-87 period using the economic model. This is compared below with the actual from the data reported in 'Health or Tobacco'.

Portugal 1983-87	
Consumption Change	
Forecast (economic model)	-2.2%
Actual ('Health or Tobacco')	-2.1%

The actual and model forecast are very close over the longer and more up-to-date 1983-87 period. Clearly the economic parameters determining consumption changes in different countries are able to predict a drop in consumption in Portugal over the 1983-87 period that is very much in line with what actually occurred. No measurable effect of the advertising ban is evident.

The data for Portugal in a longer period following the ban therefore shows no ban effect. This country in the 83-86 period was the single main observation in Table 7.5.1c to show that bans have an effect. The fact that one year later, even accepting the validity of the 1986 data, there is no ban effect that cannot be explained by a general economic model, is further strong evidence for bans being ineffective.

5.5.5 Conclusions on the Effectiveness of Advertising Bans in Controlling Consumption

The work reported here has rigorously re-examined the data presented in the 'Health or Tobacco' report. The finding is that there is no valid statistical evidence to support the view that increasing advertising restrictions have an effect on consumption.

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Demand Elasticities

Price	Income
-0.52	+0.32

This means that a 1% increase in real price leads to a 0.52% drop in per capita consumption, and a 1% increase in income leads to a 0.32% increase in consumption. These figures are broadly within the range of previously reported results for various countries in other papers.

The different impact of price and income implies that the affordability concept, in which both have equal effect, is clearly too simplistic an idea. This is extensively used in the 'Health or Tobacco' report, but in the light of this work it is misleading. Price changes have a much larger effect than income changes.

In the economic model in addition to these price and income influences there was a negative trend in consumption over all the countries examined of 1.3% per year on average over the time periods of the analysis. This will relate to changing attitudes to smoking and health generally across the world.

5.5.3 The Examination of the Impact of Advertising Restrictions

The potential effect of different advertising restrictions was probed extensively, but it was not possible to establish any statistically significant impact on consumption of increasing control of tobacco advertising. No firm evidence was found for the differential impact of advertising restrictions.

After allowing for the identified price and income effects there was no statistically significant difference between consumption trends in countries with a total ban, those with heavy restrictions and those with few restrictions.

The direct implication for New Zealand is clear. It already has restrictions and was included in the TSB analysis in the 'tobacco promoted in few media' category. The evidence implies that any further restrictions would have no effect, based on this further analysis of the data in the Department of Health study.

In general terms, the conclusion is that the differences in the trends of cigarette consumption in different countries are related to economic factors, not to advertising restrictions, even when there is an advertising ban.

Unfortunately it was not possible to examine the relationship between the 'advertising control score' described in the report and consumption, because very little information on the individual country scores was provided. Only averages, as in Table 7.5.2, and some other scores are shown. The score itself is a very crude indication of restrictions and the lack of weighting of the components (see Appendix

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4.2 Misleading Data Used in the TSB Report

In the report 'Health or Tobacco' the TSB makes extensive use of survey data which purports to describe tobacco consumption.

For example in Table 8.3.3 of the TSB report, actual consumption data is given which describes the fact the tobacco ~~consumption per adult has fallen faster in New Zealand (-1.9% p.a.) over the period 1976-86 than it has in Norway (-0.8% p.a.) or Finland (-0.8% p.a.)~~. Further data is then given showing that 'Daily Smoking in Youth' and 'Daily Smoking in Adults' has in Norway fallen far faster (-3.2% and -2.5% respectively) than in New Zealand (-0.3% and -1.7%). There is obviously an inherent contradiction in these two sets of data.

If daily smoking by youth and adults has apparently fallen far faster in Norway than in New Zealand, yet total consumption has actually fallen far faster in New Zealand than in Norway, it would indicate that one or other data set is wrong.

The fact is that TSB survey data covering tobacco consumption is highly suspect. It is a simple matter of fact (and therefore not a matter of opinion) that survey methods (asking people about how much they smoke) provide very different results to the alternative methods (favoured by Trade Associations, taxation authorities and others who need to know the facts with precision) which involve observing actual behaviour as documented in official statistics.

It is a fact that survey data does not and cannot gross up to national consumer levels described (for example) by government statistics compiled for taxation purposes. The reason is simple. ~~People tend to under-report their consumption in response to questions about their smoking habits (and drinking habits) to a far greater extent than is the case with market survey data in other less emotive areas.~~

Survey evidence usually manages to document between 30% and 70% of total national consumption levels for such products thereby rendering useless any attempt at drawing conclusions such as those formed in tables 7.5.1a and 7.5.1b of the TSB report.

The fact is that tobacco consumption has fallen far faster in New Zealand than in Norway over the period since advertising was banned in Norway. Had smoking behaviour amongst Norwegian youth really radically changed following the advertising ban (now fourteen years ago) the effects would be clearly visible in the national statistics. They are not.

The TSB report relies in very large measures on such totally inadequate survey data. A great deal of the 'evidence' presented in chapters 6, 7 and 8 is therefore totally invalidated as serious evidence.

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4.5 The TSB Literature Base on the Impact of Advertising on Tobacco Consumption

The authors of the TSB report have assembled a number of studies relating to the subject under discussion. Unfortunately they have failed to find a significant number of research reports which are of substantial importance.

Of most particular interest in this debate, which involves the assessment of highly technical literature, some of which is associated with 'sponsors', is the opinion of previous reviewers of the literature, particularly when they are clearly independent of outside interests.

The authors of the TSB report located 14 relevant studies, but no independent literature reviews are quoted. They concluded that eleven of the fourteen studies showed that advertising "significantly affected national cigarette sales."

The TSB selection of available studies is, unfortunately, most inadequate. It is inadequate in that it excludes some of the most important studies. It is inadequate in that it has failed to examine the several major literature reviews now available. It is inadequate in that it has failed to examine evidence from studies of similar industries (notably, alcohol, where a wealth of material is available).

Finally the TSB literature survey is inadequate because the conclusions reached are highly dependent on the results of five studies (Comanor & Wilson; McGuinness and Cowling, Radfar, Reuijl and Chetwynd) all of which have been the subject of serious criticism, and one (Meads) as yet unpublished study.

Econometric studies have been used in the tobacco advertising debate on a 'quantity' as opposed to a 'quality' basis. Reports have been frequently left much to be desired. It is therefore very disappointing to find that such a partial and incomplete selection of material has been made by TSB.

It is particularly disappointing that the TSB selection fails to reflect the conclusions reached by Government agencies in other countries where rigorous analysis of the subject has been recently undertaken.

For example, to quote the recent US FTC Bureau of Consumer Protection report:

"We have reviewed the empirical literature on cigarette advertising and consumption because the cigarette market provides an opportunity to study important issues that are not covered in detail in general and/or alcohol advertising literature, particularly the effects of an advertising ban and on anti-consumption ads and other forms of health information.

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political reasons' category are East European. Four out of five countries in the 'tobacco promotion in all media' category are Mediterranean. It is obvious that there is no reason to assume that all things being equal the trends in these groups would have been the same.

In one comparison made of the growth of filter-tips market share, the inclusion of the (very different) East European countries totally alters the results of the analysis. The TSB report claims that "Advertising bans were,... , clearly associated with an increased rate of shift from plain to filter-tip cigarettes". This claim is made on the basis of Table 7.5.3 of the TSB report which gives the average increase in filter-tip's market share classified by one of five categories of advertising restriction.

It is doubtful whether even the simple examination the TSB have made of the table supports this conclusion, but in so far as it does, this is because of the large annual gain in filter's share of the market in the East European countries.

However there is one dominant and vitally important feature of the data which the TSB have ignored; the declining potential for filter market share gains as filter market share increases.

It is obvious that the higher the base of filter cigarette market share, the lower the potential left for further growth. Fifty percent growth in the market share is an achievable task when filter cigarettes account for a few percent of the market. It is clearly impossible for the filter share to grow by 50% when 97% of the market is already taken by such cigarettes.

It is very easy to make allowance (statistically) for this distortion. The methodology is shown in Appendix 4. Using this simple adjustment the following table provides the correct measure of how well each group of countries has performed in achieving filter cigarette market penetration.

Group	Performance Measure
Promoted in all media	5.74
Weak ban	4.81
Strong ban	4.36
Total ban - health	4.47
Total ban - political	2.78

The centre three groups are not statistically significantly different from each other, largely due to the small numbers of countries in some groups, but the 'Promoted in all media' and 'Total ban - political' are significantly different. This finding is consistent with advertising increasing the rate at which smokers switch to filter cigarettes and is totally at variance with the statement in the TSB report.

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TERVEYDENHUOLTO

veysneuvontaa voidaan antaa taitamattomasti ja moralisoiden (23).

Tupakointi saatetaan myös kokea väähäpäöiseksi ongelmaksi monien muiden nykyään uhkaavien saasteiden ja altisteiden rinnalla. Koska ympäällä olevista ihmisiäkin niin monet polttavat ja tupakointi on jossain määrin hyväksytty tapa, sen todellista vaaraa ei varsinaisesti tiedosteta.

Terveyskasvatuksen määrä mm. kouluissa on oleellisesti vähentynyt 1980-luvulla. Tähän tulisiin kiinnittää huomiota terveyskasvatuksen laadun lisäksi. Terveyskasvatus itsenäisenä oppiaineina on vähentynyt ja tarjottuksena on ollut terveyskasvatuksen integroiminen muihin aihekokonaisuuksiin. Tämän seurauksena kenenkään aineenopettajalla ei ole varsinainen vastuu terveyskasvatuksesta, jolloin se helposti unohtuu kokonaan (Pirkko Holopainen, kouluhallitus, henkilökohtainen tiedonanto, marraskuu 1990). Nuorten terveytapatutkimuksen mukaan kouluissa tupakointielojen valvonta onkin löyhtynyt ja myös alle 16-vuotiaat ostavat yleisesti savukkeita kioskeista (24).

Myös terveydenhuollossa tupakointiin liittyvän terveyskasvatuksen määrä näyttää olevan vähäistä. Tupakointia koskeva terveyskasvatus on lääkäreillä jäänyt Kansanterveyslaitoksen tutkimuksen mukaan vähälle huomiolle (19). Noin viidennes päävittäin tupakoivista oli saanut vuoden aikana lääkäritä kehotuksen lopettaa tupakointi. Tämä kehotuksen saaneiden määrä pysyi koko 1980-luvun suunnilleen samana.

Launiksen tutkimuksen mukaan (25) terveyskeskuslääkärit antoivat hyvin vähän terveyskasvatusta ehkäisytabletteja käyttäville tupakoiville naisille tai hengitystieinfektiotilaille. Voidaan pohtia, miten vähälle huomiolle jää niiden potilaiden tupakointi, joiden oire tai sairaus ei yhtä selvästi viestitä syy-yhteyksiä tupakointiin.

Lisää suunnitelmissuutta tupakkapolitiikkaan

Tupakoinnin mainontakielto on seurannut piilomainnonnan lisääntymisen mm. urheilutapaumissa. Nuorten terveytapatutkimuksen mukaan (26) yli puolet suomalaisista nuorista

ilmoitti näheensä viimeksi kuluneen kuukauden aikana tupakkainoksia. Tällä lienee vaikutusta nuorten tupakoinnin lisääntymiseen, mitä todistaa myös se, että nuorten kokemuksen mukaan eri tupakkamerkkejä mainostetaan lähes samassa suhteessa kuin nuoret polittivat niitä.

Pekurisen mukaan (27) tupakan hinnan korottaminen näyttäisi olevan tehokkain yksittäinen keinotekoinen vähentäytyväksi ja siitä aiheutuvia terveyshaittoja. Tupakkatuotteiden hinta tulisiin sitoa kuluttajahintaindeksiin, mutta lisäksi tulisi ottaa huomioon myös kuluttajien ostovoima. Parhaaseen kokonaiskulutuksen laskuun päästäisiin terveyskasvatusta tukevalla hintapolitiikalla.

Tupakointi lisääntyi Suomessa vuoteen 1976 saakka. Silloin tupakkatuotteiden kulutus ja nuorten tupakointi kääntyi laskuun nostakseen jälleen nousuun 1980-luvun puolivälissä. Tultaessa 1990-luvulle tupakointi ei viimeikaisen kehityksen mukaan näytä olevan vähennemässä. Nyt olisikin korkea aika kehittää terveyystavoitteista tupakkapolitiikkaa entistä suunnitelmissuuntaaksi ja kokonaivaltaisemmaksi.

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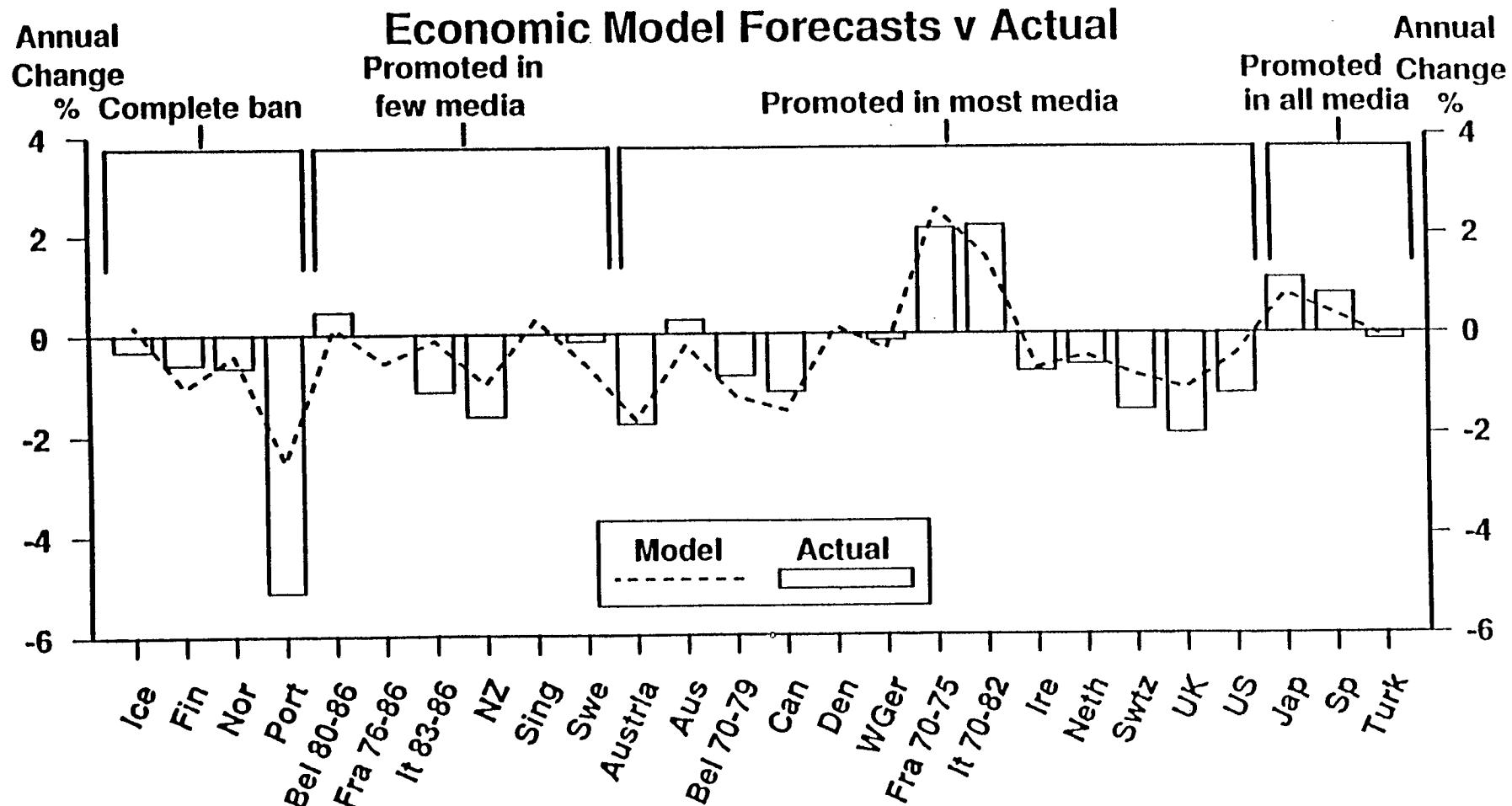
Appendix 2.1 Per Capita Tobacco Consumption Trends: National Sources

		1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	% Change from 1975
8	Netherlands	1748	1635	1940	1683	1908	1586	1501	1476	1372	1146	1074	1048	1031	41.05
11	Ireland				2331	2257	2211	2119	1952	1865	1806	1759	1663	1589	-31.84
4	UK	2600	2500	2400	2600	2500	2500	2100	2100	2100	2100	2000	2000	1900	-26.92
22	Canada	2563	2605	2641	2616	2666	2679	2729	2692	2531	2456	2330	2189	2043	-20.28
27	New Zealand	2018	2000	2028	2003	1954	1906	1954	1920	1887	1914	1724	1593	1620	-19.72
9	Iceland	1402	1399	1268	1258	1275	1256	1288	1261	1274	1269	1192	1146	1132	-19.23 α
6	USA	2811	2814	2802	2767	2762	2773	2781	2727	2555	2533	2482	2416	2353	-16.30
25	Belgium - Lux	2031	1987	1949	1761	1892	1913	1935	2134	2080	2041	1918	1852	1745	-14.12
21	Australia	2301	2213	2280	2290	2352	2382	2310	2135	2089	2112	2199	2129	2024	-12.05
28	Norway	2100	2050	1995	2012	1995	2044	1980	1942	1834	1836	1841	1889	1876	-10.67 α
23	Finland	1714	1351	1389	1391	1456	1476	1378	1430	1466	1537	1387	1465	1555	-9.28 α
5	Norway	1581	1519	1573	1487	1566	1629	1553	1413	1434	1451	1515	1534	1504	-4.90 α
20	Denmark	1707	1779	1766	1750	1633	1590	1567	1714	1646	1745	1741	1701	1647	-3.52
18	Germany FR	1997	2080	1863	1979	2028	2084	2092	1815	1930	1951	1973	1924	1930	-3.34
29	France	1609	1582	1626	1591	1640	1628	1608	1615	1635	1660	1746	1708	1693	5.24
13	Turkey	1294	1344	1372	1176	1102	1144	1434	1330	1284	1296	1276	1280	1375	6.26
12	Portugal	1350	1285	1350	1340	1304	1291	1347	1378	1435	1410	1409	1420	1449	7.39 α
26	Italy	3202	3222	3240	3165	3440	3499	3573	4110	3596	3660	3687	3660	3459	8.05 α
19	Austria	1844	1905	1943	2000	2076	2055	2078	2053	2102	2059	2070	2064	2011	9.06
15	Spain	1669	1783	1861	1742	1914	1899	1734	1822	1875	1944	2064	2020	2067	23.83
14	Greece	2373	2486	2556	2645	2609	2309	2413	2624	2702	2847	2911	3009	2959	24.72
17	Norway	438	427	484	456	501	546	487	425	428	471	555	630	655	49.52 α

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Fig. 5.7

INTERNATIONAL CIGARETTE TOBACCO CONSUMPTION TRENDS



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The parameter estimates were as below, with t statistics in brackets:

P = -0.51 (7.08)

I = +0.33 (2.93)

L1 = -0.02 (0.05)

L2 = 0.0008 (0.003)

L4 = +0.77 (2.14)

T = 1.32 (3.79)

The overall model diagnostics were:

R squared = 0.79

F (5,19) = 14.1

Clearly the L1 and L2 factors are not statistically significant. The L4 factor is just significant, but this category represents only 3 cases. The non-significant factors were dropped in the final estimate of the elasticities and the Portugal forecast.

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"Most of the large number of studies of cigarette company advertising have found little or no effect of changes in total advertising on total consumption. This result is consistent with that for the multi-industry studies reviewed above (emphasis added).

"For example, according to Hamilton's 1972 review of the literature from the period before the widespread dissemination of health risk information in 1953, early studies found little or no effect of advertising on total demand. Virtually all recent studies reach the same conclusions" (emphasis added).

A further quote from another literature survey covering the same subject produced by UK academics provides more evidence of the incomplete and slanted nature of the TSB's conclusions:

"The causal relationship between advertising and aggregate demand is still a matter of considerable controversy, but the latest careful research using sophisticated estimation procedures does tend to suggest that any causal effect is rather weak. Thus it seems to remain unproven that advertising had led to any marked increase in aggregate demand in general, or in the demand for either tobacco or alcohol products...It must be recognised that advertising could well be the wrong target in seeking to curtail consumption of products such as cigarettes and alcohol...It does appear that so far there is little convincing support for the argument that changes in total consumption of these products are caused by advertising" (emphasis added).

Further evidence omitted by TSB is given in the Appendix 3. It is clear, however, from these illustrations that the TSB conclusions from their modest literature review are diametrically opposed to conclusions reached recently by other independent, and perhaps more thorough appraisals.

4.6 Miscellaneous Errors, Methodological Faults and Other Mistakes in the TSB Report

The report is so full of errors, both large and small, that a full appraisal would take many weeks of work to fully analyse. The following list therefore contains only the more obvious errors found.

4.6.1 Inappropriate Comparisons

The TSB report frequently makes broad sweeping comparisons that might be appropriate in a really full analytical report but have no place in such a superficial analysis. For example, comparisons are made of countries which differ widely from each other in a whole range of national characteristics. Three of the four countries in the 'total ban on tobacco promotion for health reasons' convention used throughout the report are Scandinavian. All the countries in the 'advertising never permitted for

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Portugal Consumption (gm/adult/yr)			
1983	1985	1986	1987
2068	1891	1750	1895
vs 1983		-15.4%	-8.4%

Source: Health or Tobacco

Therefore had the analysis for Portugal extended to 1987 the post-ban period would have seen an average annual decline of only 2.1%, compared to the 5.1% reported to 1986 in Table 7.5.1c.

This is dramatically different, and if incorporated into Table 7.5.1c would result in an average decline of -0.9% for the Total Ban Group compared to -1.6% previously. Statistically there would be no significant difference between the new consumption trend in this group and those of the other groups where restrictions apply, irrespective of the level of advertising restrictions.

Further support for the view that the 1986 'Health or Tobacco' figure for Portugal is misleading is given by other estimates of cigarette consumption over the past few years. Three different sources are shown in Fig 5.2; the Maxwell market research estimates, the figures from Tabaqueira, the Portuguese monopoly, and the ERC report data. ~~From all these data it is evident that the consumption drop in 1986 shown by the Health or Tobacco figures which need to be graphed~~

An economic analysis of the pattern of consumption trends across countries (see below) confirmed the abnormal nature of the 1986 data for Portugal.

5.4 The Economic Factors and the Problem with the Income Data

As the report states both the price movements of cigarettes and the changes in consumer income are likely to be major factors in the consumption behaviour of smokers. In fact, the simple observation of consumption trends over time across different countries is inevitably limited in the extent to which it can give firm conclusions about the impact of advertising restrictions. Notwithstanding social and cultural differences, movements in the economic variables can easily mask or exacerbate any possible influence, as the TSB admit. In Table 7.5.1c, for instance, Belgium is reported as having an increase in consumption after advertising restrictions were tightened whereas it had fallen in the period when advertising was freer.

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Appendix 4 Filter Cigarette Penetration Model

Table 7.5.3 of the TSB report illustrates vividly the fact that the average increase in the percentage of filter cigarettes smoked has been highest over the 1971/86 period in countries where tobacco advertising has been allowed. The exception to this rule is shown as those countries with a ban on advertising for political reasons (in other words the Eastern Bloc Countries).

However, the authors of the TSB report have made no allowance for the fact that fast growth rates in any market becomes more and more difficult to achieve as the base level of market share rises. In other words, it is easier to achieve a 50% growth rate when market share is 2% than when it is 20%. And it becomes impossible to achieve a large growth rate when market share is at high levels such as the 80%-98% range which filter cigarette penetration has achieved in so many Western countries.

For example, consider the increases in the following two hypothetical cases:-

Country 1 has 50% filter market penetration in 1970 and hence the maximum possible average annual increase to 1980 is

$$100 \times (100-50)/(50 \times 10) = 10\%$$

Country 2 has 90% filter market penetration in 1970 and hence its maximum possible average annual increase to 1980 is

$$100 \times (100-90)/(90 \times 10) = 1.1\%$$

The existence of this effect is clearly seen if the 'Annual increase %' column in Table 7.5.3 is plotted against the 'Percentage filter-tip 1971' column. (attached)

If we let the values in the 'Annual increase' column be Y and those in the 'Percentage filter-tip 1971' column be X, then the statistic $b = Y/(100-X)/X$ is a measure of how well each country has performed after removing the above effect.

Alternatively, the slope (b) of the line

$$Y = b(100-X)/X$$

gives the same information; the steeper the slope the more the country has achieved after correcting for the market penetration effect.

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For example, a very recent and extremely comprehensive review of the literature relating to the impact of advertising in the alcohol market by a researcher from the Addiction Research Foundation in Toronto found that:

"The evidence indicates that advertising bans do not reduce alcohol sales, total advertising expenditures have no reliable correlation with sales of alcoholic beverages, and that experimental studies typically show no effect of advertising on actual consumption" (emphasis added).

Further reviews of the evidence in this area are given in the Appendices to this report. It is clear that the use of only the Comanor & Wilson work as "evidence" constitutes a serious flaw in the report and leads to conclusions being drawn which are the reverse of those drawn by larger and more adequate reviews of the evidence.

It is also clear that the use of language such as '~~must be~~' and '~~unconceivable~~' is inappropriate in a supposedly serious appraisal of this subject. ~~Opinion, no matter how firmly held, does not constitute evidence.~~

The claim that over 90% of advertising money is necessarily devoted to total market expansion rather than brand competition is perhaps the most extraordinary statement made in the whole report. It is very difficult to take seriously such a claim.

To reject such a claim it is only necessary to look at the endlessly shifting brand share and advertising expenditure patterns in almost all markets (many of which are static or declining) to see that if the TSB statement were true a very large proportion of advertising expenditure would be totally wasted. It is simply a fact that the vast majority of advertising is aimed directly at increasing the sales of individual brands, without any reference to the total market in which the brands operate. It is a fact that the entry of a new brand - such as the new brands of Australian lager beer that were introduced into the UK some years ago - can play havoc with existing brand shares. The Australian lager brands now take a very large share of the total UK beer market. Using competitive brand advertising combined with other factors, the Australian brewers have carved out a market worth many hundreds of millions of pounds a year, in a market in overall decline. The companies involved have gained massively from their endeavours. Yet they have neither tried to, or succeeded in, expanding the UK beer market.

To summarise, the TSB report betrays a total lack of understanding of how consumer markets operate, and the role of advertising within these markets. Furthermore the TSB report has advanced no serious evidence in support of its case and has failed to take into account or consider in any way the large body of evidence now available from totally independent sources which contradicts the views advanced by the TSB.

This flaw in the report is very serious and alone, in the opinion of the authors of this appraisal, is sufficient to invalidate many of the reports findings.

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In the data offered as evidence in the report it has been shown that the differences between countries with a complete ban, severe restrictions or few restrictions can be explained by general social and economic factors alone. The magnitude of the price and income influences are similar to those reported elsewhere by others. No advertising restriction factor is material in explaining these consumption differences.

The one country, Portugal, to show a strong apparent impact of a ban, has been shown to have no ban effect when the period of analysis is updated and extended for one year.

Using the economic factors established above across the 22 countries, together with the 1983-87 period for Portugal, we have re-analysed the key consumption finding in the report. Firstly we re-calculated the average consumption trend for the Total Ban category (health reasons) in Table 7.5.1c and presented in the Summary of the TSB report (Figure K) as hard evidence for advertising restrictions. Secondly, we produced a forecast for this group based on the economic model. This is shown below:

Consumption Trend by Advertising Restriction

Report (Fig K) Portugal 83-86	Report with Portugal 83-87	Economic Model Forecast (Portugal to 87)
Full Ban (exc. E.Bloc)	-1.6%	-0.9%

By including one further year for Portugal, to give a four year period following the ban, the average annual decline in this group almost halves to 0.9% from 1.6%. Much more importantly, in the last column it is seen that this decline is entirely predictable given the general social and economic considerations.

Thus Fig. K and the findings given in the 'Health or Tobacco' report to support a ban are misleading. We can therefore conclude that no valid consumption evidence that an advertising ban would reduce sales in New Zealand is presented in the study.

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Appendix 2.3 Per Capita Tobacco Consumption Trends: Tobacco Merchants of the USA Inc. Estimates

	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	% Change from 1975
10 UK	3286	3191	3009	2906	2862	2716	2411	2170	2064	2028	1950	1885	1827	44.42
10 Netherlands	1748	1635	1940	1683	1908	1624	1487	1546	1358	1160	1074	1092	1041	40.45
10 Belgium/Lux	2031	1987	1950	1761	1892	1913	1935	2088	1723	1538	1611	1386	1280	36.99
10 Canada	2586	2686	2708	2661	2727	2680	2729	2743	2578	2462	2343	2178	2072	19.85
10 USA				2759	2727	2725	2773	2641	2545	2523	2486	2413	2366	14.27
10 Finland	1719		1388	1391	1360	1356	1384	1717	1466	1536	1469	1468	1559	-9.32 α
10 Japan	2633	2435	2669	1749	2684	2661	2604	2640	2606	2594	2560	2541	2415	-8.25
10 Australia		2127	2354	2298	2274	2232	2298	2252	2234	2208	2070	1992	2066	-2.86
10 Germany FR	2041	2098	1891	2011	2054	2085	2112	1855	1917	2005	2021	1994	2028	-0.65
10 Sweden	1425	1458	1376	1417	1441	1431	1380	1449	1447	1462	1356	1418	1430	0.38
10 Switzerland	2419	2419	2518	2431	2368	2409	2440	2473	2548	2520	2521	2414	2499	3.32
10 Italy	1601	1611	1620	1583	1720	1749	1787	1879	1908	1861	1978	1839	1716	7.18 α
10 Ireland		1642	1620	1647	1996	2205	2105	1925	2012	1852	1808	1771	7.84	
10 Austria	1845	1905	1943	2000	2076	2055	2078	2053	2142	2046	2141	2048	1995	8.15
10 France	1560	1536	1579	1545	1599	1590	1582	1585	1636	1659	1744	1708	1694	8.58
10 Portugal	1380	1316	1376	1467	1348	1339	1381	1412	1492	1434	1431	1406	1531	10.95 α
10 Spain	1751	1920	1994	1884	2024	2046	1907	1844	1692	1973	2023	1987	2081	18.83
10 Denmark	1324	1400		1450	1427	1374	1386	1524	1646	1730	1725	1668	1628	22.96
10 Greece	2380	2485	2255	2660	2636	2641	2724	2623	2621	2766	2826	2900	2952	24.01
10 Norway									425	426		567	627	47.59 α

Sources: 10 Tobacco Merchants of the US Inc. Special Reports Nos. SR88-2; SR87-2; SR 84-3 Cigarette Consumption per Capita.

Notes:

1. Countries ranked by % change since 1975.
2. Where incomplete data exists % change figures relate to available period
3. All data in the last column is derived from the data shown in the table.
4. All population data used are from OECD Historical Statistics 1960-1987, unless otherwise stated. These data cover total population not adult population as in the WHO statistics.
5. Where consumption data was given in units of mass, the conversion 1 cigarette = 1 gramme was used to obtain consumption in pieces
6. α Country with a ban on tobacco advertising.
7. All figures are given in sticks consumed per capita unless otherwise stated.

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Their report includes a data bank, in Appendix 3, and this was used to investigate the degree of bias the non-inclusion of economic forces may have added to the Department of Health's study.

5.4.1 The Effect of Cigarette Price

We firstly show the relationship between the consumption changes and real price changes in the Appendix Table A3.1. This data was only given for the 'western' economy countries and the 28 cases are graphed in Fig. 5.3 (24 countries with Portugal, France, Belgium and Italy having two time periods). It was not possible to indicate the names of each country, but the important ban countries are identified, together with Greece.

The overall relationship is clear from this cross-sectional analysis, as one would expect from the many studies on the price elasticity of cigarette demand. The effect of real price increases is to give lower consumption. This will therefore have a significant bearing on the statistical consumption trends observed in the TSB report, and this is investigated later.

The one main exception to the clear downward relationship indicated by the 'line of best fit' is Greece. Portugal in the 83-86 period is again seen to be exceptional, as to an extent it is in the 70-82 period.

Evidence for Portugal being unusual in the 83-86 span has been given before, but it is clear that there is also a peculiarity with the Greek price/consumption relationship. It is believed that the reasons for this lie in the very low absolute price of cigarettes in that country until recently. It is understood that consumption is beginning to show signs of decline in the very latest data as some large price increases have been implemented. In any event Greece has been excluded from the detailed economic analysis presented later because of this behaviour.

The other 22 western countries appear to behave much more rationally with regard to price and a significant relationship is evident.

5.4.2 The Effect of Income and the Use of Alternative Data

The other key economic determinant is consumer income, and the report gives data for real personal income per capita, although as the footnote states this is actually retail sales per capita in most cases. The use of retail sales as a proxy for income is likely to introduce appreciable distortion to any economic analysis and may be the reason the authors failed to report any income effects. It is well known in developed countries that retail sales are not a reliable guide to personal income/consumption, as with increasing real consumer wealth expenditure is likely to be directed more into services not measured by retail sales. This can be the only reason for the considerable declines reported in Austria (70-86) and Belgium (70-79). Other studies dealing with income effects and cigarette consumption have identified a significant

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Table 4.1 Per Capita Tobacco Consumption Trends In OECD Countries With and Without a Tobacco Advertising Ban.

		1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	% Change from 1975
1	Netherlands	3060	2770	3060	2430	3010	2730	2050	2020	2160	1560	1690	1885	1827	44.77
10	UK	3286	3191	3009	2906	2862	2716	2411	2170	2064	2028	1950	1885	1827	-44.42
8	Netherlands	1748	1635	1940	1683	1908	1586	1501	1476	1372	1146	1074	1048	1031	41.05
10	Netherlands	1748	1635	1940	1683	1908	1624	1487	1546	1358	1160	1074	1092	1041	40.45
2	Netherlands	1749	1634	1941	1693	1895	1555	1495	1488	1531	1186	1083	1386	1280	38.05
10	Belgium/Lux	2031	1987	1950	1761	1892	1913	1935	2088	1723	1538	1611	1386	1280	36.99
1	UK	3210	2970	2950	3020	2840	2750	2470	2270	2180	2180	2120	2120	2120	33.96
11	Ireland				2331	2257	2211	2119	1952	1865	1806	1759	1663	1589	31.84
2	Ireland	2366	2319	2218	2293	2286	2205	2091	1925	1854	1785	1638	1581	31.06	
2	Belgium/Lux	2501	2448	2504	2423	2588	2595	2633		2143	2015	1897	1818	1768	29.33
2	UK	2359	2324	2241	2229	2211	2158	1956	1811	1802	1761	1743	1682	1669	29.26
4	UK	2600	2500	2400	2600	2500	2500	2100	2100	2100	2100	2000	2000	1900	26.92
1	Ireland	3490	3240	3110	2940	2910	2890	2750	2870	2870	2630	2560	2560	2560	26.65
22	Canada	2563	2605	2641	2616	2666	2679	2729	2692	2531	2456	2330	2189	2043	20.28
10	Canada	2586	2686	2708	2661	2727	2680	2729	2743	2578	2462	2343	2178	2072	-19.85
27	New Zealand	2018	2000	2028	2003	1954	1906	1954	1920	1887	1914	1724	1593	1620	-19.72
9	Iceland	1402	1399	1268	1258	1275	1256	1288	1261	1274	1269	1192	1146	1132	-19.23 α
2	Canada	2512	2636	2653	2660	2688	2680	2729	2695	2532	2468	2339	2183	2051	18.38
1	Belgium - Lux	2380	2260	1990	2130	2230	2080	2390	2140	1910	1990	1990	1990	1990	-16.39
6	USA	2811	2814	2802	2767	2762	2773	2781	2727	2555	2533	2482	2416	2353	-16.30
10	USA				2759	2727	2725	2773	2641	2545	2523	2486	2413	2366	-14.27
25	Belgium - Lux	2031	1987	1949	1761	1892	1913	1935	2134	2080	2041	1918	1852	1745	-14.12
21	Australia	2301	2213	2280	2290	2352	2382	2310	2135	2089	2112	2199	2129	2042	-11.26
1	Sweden	1860	2030	1770	1790	1920	1950	1770	1790	1780	1790	1660	1660	1660	-10.75
28	Norway	2100	2050	1995	2012	1995	2044	1980	1942	1834	1836	1841	1889	1876	-10.67 α
1	Germany FR	2660	2650	2330	2500	2530	2610	2540	2200	2280	2350	2380	2380	2380	-10.53
10	Finland	1719	1388	1391	1360	1356	1384	1717	1466	1536	1469	1468	1559	1559	-9.32 α
23	Finland	1714	1351	1389	1391	1456	1476	1378	1430	1466	1537	1387	1465	1555	-9.28 α
2	Finland	1719	1354	1393	1389	1448	1485	1375	1429	1462	1536	1387	1464	1561	-9.18 α
1	Finland	1880	1540	1640	1890	1840	1870	1780	1820	1910	1720	1720	1720	1720	-8.51 α
10	Japan	2633	2435	2669	1749	2684	2661	2604	2640	2606	2594	2560	2541	2415	-8.25
2	Sweden	1428	1459	1382	1414	1411	1432	1382	1453	1393	1379	1341	1338	1322	-7.47
1	Norway	760	730	770	730	810	850	700	700	540	580	710	710	710	6.58 α
2	Iceland							1926	1778	1844	1863	1805	1770	1800	-6.56 α
5	Norway	1581	1519	1573	1487	1566	1629	1553	1413	1434	1451	1515	1534	1504	-4.90 α
1	Denmark	2210	2320	2270	2240	2080	1970	2070	2030	2050	2100	2110	2122	2122	-4.52
2	Germany FR	2004	2080	1888	1984	2014	2063	2104	1760	1851	1924	1952	1922	1923	-4.03

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same data as reported, even with our reservations, because of our desire not to introduce any differences to the basic data in our re-analysis of the findings.

The overall approach taken by the Department of Health was to examine trends in consumption only after the bans in Iceland, Finland and Norway, but both before and after in the case of the Portugal ban in 1983. These were compared with trends over the 1970-86 period for most other countries. The exceptions were France, Belgium and Italy, where periods before and after a change in advertising restrictions were used.

There are obvious criticisms in comparing different periods, particularly because in the case of cigarette smoking there have been negative trends in recent years associated with health publicity, and it could be argued that ~~the best way to assess the change resulting from a ban is to examine time periods before and after as stated previously~~. It is not clear why this was not performed.

5.3 The Abnormality of the Consumption Data for Portugal in 1986

It has already been noted in Section 4.4 of this document that ~~the TSB findings about the impact of ad bans are in fact reliant on the data for one country - Portugal~~. Table 7.5.1c of the report groups the 33 countries by advertising restriction level, as defined by the TSB, and it is clear that the other three ban countries, Iceland, Finland and Norway, appear to have suffered unremarkable consumption falls similar to those experienced in many other countries.

This is shown in Fig 5.1, where the data of Table 7.5.1c is presented graphically for ease of interpretation (the Eastern bloc countries are excluded as they are so economically and culturally different that little meaningful analysis can be conducted with their data). The time period covered is mainly 1970-1986, unless otherwise stated. The exceptional nature of Portugal in the 1983-86 period, following the advertising ban introduced in 1983, is evident.

However, further scrutiny of the consumption data contained within the report (Appendix A Table A3.2) shows that this abnormality is caused by the very low figure for the final year alone, 1986. In 1987 consumption in Portugal rose again back to the level of 1985, according to the TSB data viz.

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4.3 The Selective and Partial use of National Tobacco Consumption Data

The authors of the TSB report have used real tobacco consumption data in the report in addition to the survey data described in section 4.2 above. They often (improperly) reject the evidence of this data in favour of conclusions drawn from inaccurate survey data, but nevertheless they have accumulated an interesting body of real consumption data.

Unfortunately the authors of the report have not accumulated enough data to serve correctly their purpose.

The methodology used in general is to compare trends ~~after a ban~~ with trends in other countries where a ban has not taken place. ~~No account has been taken of the trends in the ban countries before the ban took place, which is of course crucial information.~~ One cannot interpret a claimed difference between groups of countries after a ban in one group, unless one can demonstrate the difference was not evident before the ban.

The importance of seeing the 'whole picture' is illustrated by the table attached (table 4.1) which shows per capita consumption for all OECD countries. As can be seen from the table (which also assembles hard consumption data for each country from all known sources) on any measure or data source used, those countries which have achieved the greatest falls in tobacco consumption allow tobacco advertising. (These data are also given by data source in Appendix 2).

New Zealand has achieved a greater fall in tobacco consumption than any of the countries which have had advertising bans in place, in some cases for many years.

To summarise the use of data runs covering only post-ban situations is a major flaw in the TSB report. This omission invalidates several key TSB conclusions.

4.4 Overdependence on Volatile Consumption Data for One Country

In addition to this misuse of data, the TSB report omits certain very important figures which are easily available but whose omission greatly affects the overall conclusions. For example, one of the key conclusions of the report, based on national consumption data, relies wholly on data from Portugal for the years 1983-1986. Adding to the report data for 1987 radically alters the conclusions that would have been drawn. The short data run used and the omission of recent but available data is a key error in the report which invalidates one of its major findings. (More information on this key point is contained in Section 5).

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Table 4.1 Per Capita Tobacco Consumption Trends In OECD Countries With and Without a Tobacco Advertising Ban.

	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	% Change from 1975	
1 Portugal	1800	1660	1750	1760	1840	1780	1800	1800	1870	1730	1730	1701	1647	3.89 α	
20 Denmark	1707	1779	1766	1750	1633	1590	1567	1714	1646	1745	1741	1701	1647	3.52	
18 Germany FR	1997	2080	1863	1979	2028	2084	2092	1815	1930	1951	1973	1924	1930	3.34	
1 Switzerland	3050	3300	3170	3620	3680	2710	3190	3120	2880	2960				2.95	
10 Australia		2127	2354	2298	2274	2232	2298	2252	2234	2208	2070	1992	2066	2.86	
2 Switzerland	2420	2416	2517	2432	2362			2474	2515	2490	2418	2404	2402	0.75	
10 Germany FR	2041	2098	1891	2011	2054	2085	2112	1855	1917	2005	2021	1994	2028	0.65	
2 Denmark	1403	1478	1454	1430	1446	1405	1386	1524	1427	1506	1525	1465	1404	0.02	
10 Sweden	1425	1458	1376	1417	1441	1431	1380	1449	1447	1462	1356	1418	1430	0.38	
1 Iceland	3020	2820	2850	3130	3220	3240	3240	3200	3160	3130	3100			2.65 α	
10 Switzerland	2419	2419	2518	2431	2368	2409	2440	2473	2548	2520	2521	2414	2499	3.32	
29 France	1609	1582	1626	1591	1640	1628	1608	1615	1635	1660	1746	1708	1693	5.24	
2 Portugal			1373	1339	1324	1378	1442	1473	1451	1441	1451			5.71 α	
13 Turkey	1294	1344	1372	1176	1102	1144	1434	1330	1284	1296	1276	1280	1375	6.26	
10 Italy	1601	1611	1620	1583	1720	1749	1787	1879	1908	1861	1978	1839	1716	7.18 α	
12 Portugal	1350	1285	1350	1340	1304	1291	1347	1378	1435	1410	1409	1420	1449	7.39 α	
10 Ireland	1642	1620	1647	1996	2205	2105	1925	2012	1852	1808	1771			7.84	
2 Italy	1600	1610	1620	1582	1720	1750	1786	1794	1799	1830	1843	1774	1727	7.93 α	
26 Italy	3202	3222	3240	3165	3440	3499	3573	4110	3596	3660	3687	3660	3459	8.05 α	
10 Austria	1845	1905	1943	2000	2076	2055	2078	2053	2142	2046	2141	2048	1995	8.15	
10 France	1560	1536	1579	1545	1599	1590	1582	1585	1636	1659	1744	1708	1694	8.58	
2 France	1558	1535	1577	1546	1640	1568	1576	1586	1606	1632	1717	1686	1692	8.58	
2 Austria	1847	1903	1942	1997	2080	2053	2075	2047	2052	2065	2064	2062	2007	8.63	
1 Austria	2350	2500	2600	2670	2700	2670	2550	2680	2650	2510	2560			8.94	
19 Austria	1844	1905	1943	2000	2076	2055	2078	2053	2102	2059	2070	2064	2011	9.06	
1 France	2170	2150	2060	2130	2170	2080	2050	2050	2070	2090	2400			10.60	
10 Portugal	1380	1316	1376	1467	1348	1339	1381	1412	1492	1434	1431	1406	1531	10.95 α	
1 Italy	2120	2180	2170	2090	2250	2320	2180	2390	2410	2370	2460			16.04 α	
1 Greece	3130	3250	3350	3480	3470	3420	3590	3370	3340	3500	3640			16.29	
10 Spain	1751	1920	1994	1884	2024	2046	1907	1844	1692	1973	2023	1987	2081	18.83	
2 Spain	1643	1761	1837	1725	1896	1884	1701	1810	1864	1935	2052	2015		22.64	
10 Denmark	1324	1400		1450	1427	1374	1386	1524	1646	1730	1725	1668	1628	22.96	
15 Spain	1669	1783	1861	1742	1914	1899	1734	1822	1875	1944	2064	2020	2067	23.83	
10 Greece	2380	2485	2255	2660	2636	2641	2724	2623	2621	2766	2826	2900	2952	24.01	
14 Greece	2373	2486	2556	2645	2609	2309	2413	2624	2702	2847	2911	3009	2959	24.72	
1 Spain	2110	1600	1900	1800	2030	2320	2360	2460	2260	2620	2740			29.86	
2 Greece	2089	2182	2245	2322	2294	2271	2415	2625	2701	2848	2909	3010	2961	41.70	
10 Norway		438	427	484	456	501	546	487	425	428	471	555	630	655	47.59 α
17 Norway			422	495	468	491	538	488	437	436	459	554	624	645	52.83 α

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Sources for appendix 2.1

- 4 UK Smoking Statistics, N.Wald and S. Kirkuk, Dpt. of Environmental and Preventive Medicine, St Bartholomew's Hospital Medical College, London; S. Darby, Sir Richard Doll and M. Pike, Imperial Cancer Research Fund Cancer Epidemiology and Clinical Trials Unit Oxford/TAC; R. Peto, Imperial Cancer Research Fund Cancer Studies Unit Oxford (Units grammes/person over 15)
- 5 Norwegian Excise Tax Directorate, Per Consumption of Manufactured Cigarettes and RYO Tobacco, Grammes per Capita.
- 6 US Dept. of Agriculture Year Book, Consumption in Sticks per Capita.
- 8 Centraal Bureau voor de Statistiek, Cigarette Consumption Sticks per Capita.
- 9 Jonas Ragnarsson, Icelandic Cancer Society, Reykjavik, June 30th 1988, Units Total Cigarette Consumption Sticks per Capita (See Note 5).
- 11 Revenue Comissionaires Annual Report Cigarette Consumption Sticks per Capita.
- 12 Tabaqueira, Cigarette Consumption Sticks per Capita.
- 13 TEKEL, Cigarette Consumption Sticks per Capita.
- 14 Series Historicas de Consumo de Tabaco Elaborado (1957-88), Cigarette Consumption Sticks per Capita
- 15 Greek Ministry of Finance, Cigarette Consumption Sticks per Capita.
- 16 Singapore Department of Statistics, Ministry of Trade and Finance, Cigarette Consumption Sticks per Capita
- 17 Norwegian Tobacco Manufacturers Association, OECD Population Estimates; Sales Sticks Per Capita (Includes border trade with Sweden from 1982)
- 18 Statistische Bundesamt Wiesbaden, Finanzen und Sterun, Reihe 9.1 2. Tabakgewerbe, 1987, Cigarette Consumption Sticks per Capita
- 19 Austria Tabak, Cigarette Consumption Sticks per Capita.
- 20 Tobaksindustriens, Cigarette Consumption Sticks per Capita.
- 21 Australian Tobacco Board Annual Report, Cigarette Consumption Sticks per Capita.
- 22 Canadian Tobacco Manufacturers' Council, Cigarette Consumption Sticks per Capita.
- 23 Finnish Tobacco Manufacturers' Association, Cigarette Consumption Sticks per Capita.
- 24 Tobacco Institute of Hong Kong Ltd, Estimate Cigarette Consumption Sticks per Capita.
- 25 Belgische en Luxemburgse fiskale bandjes, aangekocht voor in Belgie en in Luxembourg, Units Cigarette Consumption Sticks per Capita.
- 26 Ufficio Studi Federazione Italiana Tabaccaia, Units Cigarette Consumption Sticks per Capita.
- 27 New Zealand Customs Department, Consumption of Cigarettes Sticks per Capita.
- 28 Norwegian Customs & Excise Directorate, per Capita Consumption of Cigarettes and Smoking Tobacco in Grammes per Capita Over 15 (figures cover financial not calendar years).
- 29 SEITA Cigarette Consumption Units per Sticks Capita.

Notes:

1. Countries ranked by % change since 1975.
2. Where incomplete data exists % change figures relate to available period.
3. All data in the last column is derived from the data shown in the table.
4. All population data used are from OECD Historical Statistics 1960-1987, unless otherwise stated. These data cover total population, not adult population, as in WHO statistics.
5. Where consumption data was given in units of mass, the conversion 1 cigarette = 1 gramme was used to obtain consumption in pieces.
6. α Country with a ban on tobacco advertising.
7. All figures are given in sticks consumed per capita unless otherwise stated.

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A further example of this kind if error is shown in Tables 7.5.1a and 7.5.1c.

The TSB conclusion derived from Table 7.5.1a is that adult smoking has fallen faster in groups of countries with advertising bans.

The entire argument derived from table 7.5.1a hangs on data from three countries with a tobacco advertising ban: Iceland, Finland and Norway. ~~The TSB have used an arithmetic average of the annual percentage fall in adult smoking to derive a group average fall of 3.7%~~. This figure is somewhat difficult to interpret from a public policy stance since it is derived from a ~~0.5% fall in Iceland~~, a ~~0.5% fall in Finland~~ and a ~~11% fall in Norway~~.

The large fall in smoking in Iceland (population just over 200,000) distorts the true position. In Norway and Finland (combined population over 9 million) the fall in smoking averages less than 1%. The population weighted average is also under 1%. ~~This average fall of under 1% compares unfavourably with the much larger fall in smoking (on either a population weighted or unweighted basis) shown in the countries that allow tobacco advertising as quoted in the TSB report.~~ The true conclusion to be drawn from this table is again the precise reverse of that drawn by the TSB.

Table 7.5.1c is similarly flawed. Again ~~the TSB conclusion~~ (that tobacco consumption per person has on average fallen faster in those countries where tobacco advertising is banned for health reasons than in countries where it is not), ~~is dependent entirely on data from one country in this case Portugal~~.

The TSB quotes an average fall in tobacco consumption of 1.6% for the four countries cited as having total tobacco promotion bans for health reasons. This is contrasted with a much smaller fall of 0.4% in countries where tobacco advertising is allowed. However, the 1.6% fall is derived largely from a large 5.1% fall attributed to Portugal between 1983 and 1986. In the other three of the four countries quoted as having a ban on advertising for health reasons (for a much longer period), the consumption fall averaged 0.46% ~~(using the simple arithmetic average used by TSB)~~. The true and obvious conclusion therefore is that ~~adult smoking falls faster in countries that ban advertising~~ ~~adult smoking falls faster in countries that do not ban advertising~~. The entire TSB case in this paragraph rests on 4 years data from one small country, coupled with the highly questionable use of unweighted averages. In addition, as already noted adding one years data to the Portugal figures produces a remarkably different result.

The abnormality of the Portuguese data in 1986 is discussed in Section 5 of this document, which examines the TSB consumption analysis in considerable detail.

Yet another example of inappropriate comparison is shown in comparisons made from data relating to the ~~percentage of adults who smoke~~. Leaving aside the lack of validity of these data (as already discussed) there are numerous problems in interpreting the data shown. For example, in relation to table 7.5.1a, the evidence in

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Appendix 2.2 Per Capita Tobacco Consumption Trends: Maxwell Research Estimates

	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	% Change from 1975
2 Netherlands	1749	1634	1941	1693	1895	1555	1495	1488	1531	1186	1083			-38 05
2 Ireland	2366	2319	2218	2293	2286	2205	2091	1925	1854	1785		1638	1581	-31 06
2 Belgium/Lux	2501	2448	2504	2423	2588	2595	2633		2143	2015	1897	1818	1768	-29 33
2 UK	2359	2324	2241	2229	2211	2158	1956	1811	1802	1761	1743	1682	1669	-29 26
2 Canada	2512	2636	2653	2660	2688	2680	2729	2695	2532	2468	2339	2183	2051	-18 38
2 Finland	1719	1354	1393	1389	1448	1485	1375	1429	1462	1536	1387	1464	1561	-9 18 α
2 Sweden	1428	1459	1382	1414	1411	1432	1382	1453	1393	1379	1341	1338	1322	-7 47
2 Iceland							1926	1778	1844	1863	1805	1770	1800	6 56 α
2 Germany FR	2004	2080	1888	1984	2014	2063	2104	1760	1851	1924	1952	1922	1923	-4 03
2 Switzerland	2420	2416	2517	2432	2362			2474	2515	2490	2418	2404	2402	-0 75
2 Denmark	1403	1478	1454	1430	1446	1405	1386	1524	1427	1506	1525	1465	1404	0 02
2 Portugal				1373	1339	1324	1378	1442	1473	1451	1441	1451		5 71 α
2 Italy	1600	1610	1620	1582	1720	1750	1786	1794	1799	1830	1843	1774	1727	7 93 α
2 France	1558	1535	1577	1546	1640	1568	1576	1586	1606	1632	1717	1686	1692	8 58
2 Austria	1847	1903	1942	1997	2080	2053	2075	2047	2052	2065	2064	2062	2007	8 63
2 Spain	1643	1761	1837	1725	1896	1884	1701	1810	1864	1935	2052	2015		22 64
2 Greece	2089	2182	2245	2322	2294	2271	2415	2625	2701	2848	2909	3010	2961	41 70
2 Norway		422	495	468	491	538	488	437	436	459	554	624	645	52 83 α

Sources: 2 Maxwell Research Estimates (Cigarette Consumption per Capita).

Notes:

1. Countries ranked by % change since 1975.
2. Where incomplete data exists % change figures relate to available period.
3. All data in the last column is derived from the data shown in the table.
4. All population data used are from OECD Historical Statistics 1960-1987, unless otherwise stated. These data cover total population not adult population as in WHO statistics.
5. Where consumption data was given in units of mass, the conversion 1 cigarette = 1 gramme was used to obtain consumption in pieces.
6. α Country with a ban on tobacco advertising.
7. All figures are given in sticks consumed per capita unless otherwise stated.

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this table of accelerated change in smoking prevalence attributable to the ban policies is very poor, and highly dependent upon one or two data points which are themselves suspect.

In the 'fully enforced ban' group, data has been used comparing the years 1978-86 for Finland, 1973-86 for Norway, but only for 1985-86 for Iceland (1 year) and in this one year a decline of 9.5% is noted. This in itself seems a highly suspect figure and there are no trend data to indicate how this drop fits in to previous patterns. Since Iceland introduced a total ban in 1972, 14 years before this one year chosen, it is unlikely that an immediate cause and effect relationship exists between the ban and this sudden apparent decrease in the percentage of adults smoking.

The data for Belgium is included in 'few media' group from 1980 and in the "most media" group for 1970-79. However, ~~the figures quoted for the percentage of adults increased from 20.2% to 21.3% between 1970 and 1979 but from 41.5% to 32% from 1980-86. Clearly one, if not both of these sets of figures is inaccurate.~~

France, included in 'most media' and 'few media' for different periods, shows a greater decline in the 'most' period.

Italy is included under 'few media' for 1980-83; but the enforced ban placing Italy in this category did not come in until 1983.

There is only one country in the 'all media' group (Japan) for which data are available, and this is hardly sufficient for purposes of comparison.

If the suspect data for Iceland and Belgium are removed from the calculations, and the data for Italy placed in the correct category, the table is amended as follows:

	Group average (revised)	Report Average
Enforced ban	-0.6	-3.6
Few media	-2.0	-2.5
Most Media	-1.56	-1.2
All media	-1.2	-1.2

Once again the true conclusion to be drawn from the data is the precise reverse of the TSB conclusion.

4.6.2 Data Deficiencies

The TSB report claims for itself great thoroughness. Yet there are numerous examples of omissions, errors and inconsistencies in even the basic data used. For example, the consumption measure is claimed to be reliable because:

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Appendix 2.4 Per Capita Tobacco Consumption Trends: WHO Estimates

	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	% Change from 1975
Netherlands	3060	2770	3060	2430	3010	2730	2050	2020	2160	1560	1690			-44.77
UK	3210	2970	2950	3020	2840	2750	2470	2270	2180	2180	2120			-33.96
Ireland	3490	3240	3110	2940	2910	2890	2750	2870	2870	2630	2560			-26.65
Belgium - Lux		2380	2260	1990	2130	2230	2080	2390	2140	1910	1990			-16.39
Sweden	1860	2030	1770	1790	1920	1950	1770	1790	1780	1790	1660			-10.75
Germany FR	2660	2650	2330	2500	2530	2610	2540	2200	2280	2350	2380			-10.53
Finland	1880	1540	1640		1890	1840	1870	1780	1820	1910	1720			-8.51 α
Norway	760	730	770	730	810	850	700	700	540	580	710			-6.58 α
Denmark	2210	2320	2270	2240	2080	1970	2070	2030	2050	2100	2110			-4.52
Portugal	1800	1660	1750	1760	1840	1780	1800	1800	1870	1730	1730			-3.89 α
Switzerland	3050	3300	3170	3620	3680	2710	3190	3120	2880	2960				-2.95
Iceland	3020	2820	2850	3130	3220	3240	3240	3200	3160	3130	3100			-2.65 α
Austria	2350	2500	2600	2670	2700	2670	2550	2680	2650	2510	2560			8.94
France	2170	2150	2060	2130	2170	2080	2050	2050	2070	2090	2400			10.60
Italy	2120	2180	2170	2090	2250	2320	2180	2390	2410	2370	2460			16.04 α
Greece	3130	3250	3350	3480	3470	3420	3590	3370	3340	3500	3640			16.29
Spain	2110	1600	1900	1800	2030	2320	2360	2460	2260	2620	2740			29.86

Sources: 1 World Health Organisation Estimates (Consumption of Manufactured Cigarettes per Adult).

Notes:

1. Countries ranked by % change since 1975.
2. Where incomplete data exists % change figures relate to available period.
3. All data in the last column is derived from the data shown in the table.
4. Where consumption data was given in units of mass, the conversion 1 cigarette = 1 gramme was used to obtain consumption in pieces.
5. WHO data is defined as consumption of manufactured cigarettes per adult, and uses a different population base from the OECD statistics used elsewhere in the report.
6. α Country with a ban on tobacco advertising.
7. All figures are given in sticks consumed per capita unless otherwise stated.

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Sources for table 4.1

- 1 World Health Organisation Estimates (Consumption of Manufactured Cigarettes per Adult).
- 2 Maxwell Research Estimates (Cigarette Consumption per Capita)
- 3 International Agency Research on Cancer, Monographs Vol 38 Appendix 1 International tobacco sales (Consumption per Capita in pieces)
- 4 UK Smoking Statistics, N Wald and S. Kirkuk, Dpt of Environmental and Preventive Medicine, St Bartholomew's Hospital Medical College, London; S. Darby, Sir Richard Doll and M. Pike, Imperial Cancer Research Fund Cancer Epidemiology and Clinical Trials Unit Oxford(TAC); R. Peto, Imperial Cancer Research Fund Cancer Studies Unit Oxford (Units grammes/person over 15)
- 5 Norwegian Customs and Excise, Consumption of Manufactured Cigarettes and RYO in Grammes per Capita
- 6 US Dept. of Agriculture Year Book, Consumption in Sticks per Capita.
- 7 Centraal Bureau voor de Statistiek, Cigarette Consumption Sticks per Capita.
- 8 Jonas Ragnarsson, Icelandic Cancer Society, Reykjavik, June 30th 1988, Units total cigarette Consumption Sticks per Capita
- 9 Tobacco Merchants of the US Inc. Special Reports Nos. SR88-2; SR87-2; SR 84-3 Cigarette Consumption Sticks per Capita.
- 10 Revenue Commissioners annual Report, Cigarette Consumption Sticks per Capita.
- 11 Tabaqueira, Cigarette Consumption Sticks per Capita.
- 12 TEKEL, Cigarette Consumption per Sticks Capita.
- 13 Series Historicas de Consumo de Tabaco Elaborado (1957-88), Cigarette Consumption Sticks per Capita
- 14 Greek Ministry of Finance, Cigarette Consumption Sticks per Capita
- 15 Singapore Department of Statistics, Ministry of Trade and Finance, Cigarette Consumption Sticks per Capita
- 16 Norwegian Tobacco Manufacturers Association, OECD Population Estimates; Sales Sticks Per Capita (Includes border trade with Sweden from 1982).
- 17 Statistische Bundesamt Wiesbaden, Finanzen und Sterben, Reihe 9.1.2. Tabakgewerbe, 1987, Cigarette Consumption Sticks per Capita
- 18 Austria Tabak, Cigarette Consumption Sticks per Capita.
- 19 Tobaksindustrieln, Cigarette Consumption Sticks per Capita.
- 20 Australian Tobacco Board Annual Report, Cigarette Consumption Sticks per Capita.
- 21 Canadian Tabacco Manufacturers' Council, Cigarette Consumption Sticks per Capita.
- 22 Finnish Tabacco Manufacturers' Association, Cigarette Consumption Sticks per Capita.
- 23 Tobacco Institute of Hong Kong Ltd, Estimate Cigarette Consumption Sticks per Capita.
- 24 Belgische en Luxemburges fiskale bandjes, aangekocht voor In Belgie en In Luxembourg Units Cigarette Consumption Sticks per Capita
- 25 Officio Studi Federazione Italiana Tabacca, Units Cigarette Consumption Sticks per Capita.
- 26 New Zealand Customs Department, Consumption of Cigarettes Sticks per Capita.
- 27 Norwegian Customs & Excise Directorate, per Capita Consumption of Cigarettes and Smoking Tobacco in Grammes per Capita Over 15. (Figures cover financial years not calender years).
- 28 SEITA Cigarette Consumption Units per Capita.

Note:

1. Countries ranked by % change since 1975.
2. Where incomplete data exists % change figures relate to available period
3. All data in the last column is derived from the data shown in the table.
4. All population data is from OECD Historical Statistics 1960-1987, unless otherwise stated. These data cover total population, not adult population as in the WHO estimates.
5. Where consumption data was given in units of mass, the conversion 1 cigarette = 1 gramme was used to obtain consumption in pieces.
6. WHO data is defined as consumption of manufactured cigarettes per adult, as the population base is different from the OECD source differences can be expected.
7. IARC data, see source 3 above, is available from the master database but does not appear on this table due to its out of date and fragmentary nature.
8. α Country with a ban on tobacco advertising.
9. All figures are given in sticks consumed per capita unless otherwise stated.

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Fifth, the report bases many of its judgements on a small scale literature review which leaves out of consideration many of the most important papers in this area of knowledge. Many individual papers, and much more crucially, most independent reviews of the evidence, (covering in total many more analyses than the 14 studies examined by the TSB), have arrived at conclusions diametrically opposed to those drawn by the TSB authors. In addition to the lack of coverage of the TSB review, the conclusions the TSB draw from their review of the literature is heavily dependent on five studies all of which have been the subject of serious criticism, and one as yet unpublished (and hence not yet the subject of any critical appraisal) study. The TSB literature review cannot as a consequence be taken as a serious objective appraisal of the evidence.

Sixth, the report contains a large number of what can only be called mistakes of various types, ranging from the evident lack of appreciation of simple statistical practices, to the inclusion in the report of contradictory statements. In several important analyses the use of totally inappropriate statistical techniques leads the TSB to draw conclusions that are the precise reverse of what is demonstrably true.

To conclude, the TSB report is an ambitious attempt at producing a definitive answer to the question of what impact tobacco advertising has on tobacco consumption. Unfortunately ~~the report is full of misleading conclusions, unreliable and misleading data, faulty statistical methods and contradictions~~. Individually these various criticisms invalidate large sections of the TSB report. Collectively they mean that none of the report's conclusions can be regarded as a reasonable basis for public policy decision making.

~~An analysis of the TSB report shows that it provides firm evidence that:~~

- (1) ~~Advertising has a measurable impact on the consumption of tobacco products.~~
- (2) ~~Advertising bans do indeed change the market share of filter cigarettes (and the price paid by the consumer for these cigarette types).~~

These conclusions are broadly in line with the answers reached by independent Government agencies, academics and researchers who have reviewed the evidence relating to the impact of advertising on markets in general, and on the tobacco market in particular.

As regards the situation in New Zealand, tobacco consumption has already fallen faster than in any country that has instituted a tobacco advertising ban - for whatever reason - since 1975, the date of the much vaunted Norwegian tobacco advertising ban. This analysis of the TSB report demonstrates that further restrictions on tobacco advertising in New Zealand would have no measurable impact on tobacco consumption.

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